

Barème DS4

| <b>Problème n°1</b> | 36  |                                                                                                                               |
|---------------------|-----|-------------------------------------------------------------------------------------------------------------------------------|
| <b>Q.I.1</b>        | 3   | 1 pour le T.E.M, 1 pour l'expression, 1 pour l'AN                                                                             |
| <b>Q.I.2</b>        | 3   | 1 pour le T.E.C, 1 pour l'expression de W, 1 pour F                                                                           |
| <b>Q.I.3</b>        | 2   | 1 pour l'expression, 1 pour l'AN                                                                                              |
| <b>Q.I.4</b>        | 3   | 1 pour le T.E.M, 1 pour l'expression, 1 pour l'AN                                                                             |
| <b>Q.I.5</b>        | 5   | 1 pour l'expression de l'accélération en polaires, 1 pour la 2ème LN, 1 pour l'expression de N, 1 pour l'AN, 1 pour le schéma |
| <b>Q.I.6</b>        | 1   | 1 pour une justification correcte                                                                                             |
| <b>Q.I.7</b>        | 1   | 1 pour une justification correcte                                                                                             |
| <b>Q.I.8</b>        | 1   | 1 pour une justification correcte                                                                                             |
| <b>Q.I.9</b>        | 4   | 2 pour l'expression du temps à l'aller, 1 pour l'expression du temps au retour, 1 pour la conclusion                          |
| <b>Q.II.1</b>       | 4   | 1 pour le T.E.C, 1 pour l'expression de W, 1 pour Ff, 1 pour l'AN                                                             |
| <b>Q.II.2</b>       | 4   | 1 pour le T.E.C, 1 pour l'expression de W, 1 pour F, 1 pour l'AN                                                              |
| <b>Q.II.3</b>       | 1   | 1 pour une justification correcte                                                                                             |
| <b>Q.II.4</b>       | 1   | 1 pour une justification correcte                                                                                             |
| <b>Q.III</b>        | 3   | 1 pour l'expression de la force résiste, 1 pour l'AN, 1 pour la comparaison avec Ff et la conclusion                          |
|                     |     |                                                                                                                               |
| <b>Problème n°2</b> | 24  |                                                                                                                               |
| <b>Q.1</b>          | 2   | 1 pour la loi de Hooke, 0,5 par expression                                                                                    |
| <b>Q.2.a</b>        | 2   | 1 pour la 2ème LN, 1 pour la projection sur l'axe Ox                                                                          |
| <b>Q.2.b</b>        | 2   | 1 pour l'équation, 1 pour la dimension avec justification                                                                     |
| <b>Q.2.c</b>        | 1   | 0,5 pour l'équation de l'O.H, 0,5 pour la solution                                                                            |
| <b>Q.2.d</b>        | 1   | 1 pour l'expression de x(t)                                                                                                   |
| <b>Q.2.e</b>        | 2   | 1 pour le graphique, 1 pour le commentaire                                                                                    |
| <b>Q.3.a</b>        | 1   | 1 pour l'expression de y(t)                                                                                                   |
| <b>Q.3.b</b>        | 1   | 1 pour le commentaire                                                                                                         |
| <b>Q.4.a</b>        | 2   | 1 pour la relation liant omega à lambda, 1 pour l'AN                                                                          |
| <b>Q.4.b</b>        | 2   | 1 pour l'expression, 1 pour l'AN                                                                                              |
| <b>Q.4.c</b>        | 1   | 1 pour l'AN avec commentaire                                                                                                  |
| <b>Q.4.d</b>        | 1   | 1 pour le commentaire                                                                                                         |
| <b>Q.5.a</b>        | 1   | 1 pour l'expression                                                                                                           |
| <b>Q.5.b</b>        | 3   | 1 par expression de Ec, Ep puis Em                                                                                            |
| <b>Q.5.c</b>        | 1   | 1 pour le commentaire                                                                                                         |
| <b>Q.5.d</b>        | 1   | 1 pour le commentaire                                                                                                         |
|                     |     |                                                                                                                               |
| <b>Problème n°3</b> | 19  |                                                                                                                               |
| <b>Q.1</b>          | 1   | 1 pour la définition de la vitesse                                                                                            |
| <b>Q.2</b>          | 1   | 1 pour la loi empirique                                                                                                       |
| <b>Q.3</b>          | 2   | 1 pour la dégénérescence de l'ordre, 1 pour l'expression de kapp                                                              |
| <b>Q.4</b>          | 3   | 3 pour l'obtention de la relation                                                                                             |
| <b>Q.5</b>          | 2   | 2 pour l'obtention de la relation                                                                                             |
| <b>Q.6</b>          | 3   | 1 pour la relation donnant l'évolution de A(t), 1 pour la validation graphique de l'ordre, 1 pour la pente                    |
| <b>Q.7</b>          | 3   | 1 pour l'expression du temps de demi-réaction, 1 pour la valeur à partir de app, 1 pour la lecture graphique                  |
| <b>Q.8</b>          | 2   | 2 pour la relation d'Arrhénius                                                                                                |
| <b>Q.9</b>          | 2   | 2 pour la méthode de mesure                                                                                                   |
|                     |     |                                                                                                                               |
| <b>Problème n°4</b> | 41  |                                                                                                                               |
| <b>Q.1.a</b>        | 1   | 1 pour l'expression de la force de rappel                                                                                     |
| <b>Q.1.b</b>        | 2   | 1 pour le bilan, 1 pour le schéma                                                                                             |
| <b>Q.1.c</b>        | 2   | 1 pour la 2ème LN, 1 pour la projection sur l'axe Ox                                                                          |
| <b>Q.1.d</b>        | 1   | 0,5 pour l'équation de l'O.H, 0,5 pour la solution                                                                            |
| <b>Q.2.a</b>        | 1,5 | 0,5 par résultat                                                                                                              |
| <b>Q.2.b</b>        | 1,5 | 0,5 pour x0, 1 pour v0                                                                                                        |
| <b>Q.2.c</b>        | 1   | 1 pour l'expression de x(t)                                                                                                   |
| <b>Q.3.a</b>        | 1   | 1 pour l'expression                                                                                                           |
| <b>Q.3.b</b>        | 2   | 1 pour l'expression de Ec, 1 pour celle de Em                                                                                 |
| <b>Q.3.c</b>        | 1   | 1 pour la valeur de k                                                                                                         |
| <b>Q.3.d</b>        | 1   | 1 pour la valeur de m                                                                                                         |
| <b>Q.3.e</b>        | 2   | 1 pour le calcul de la dérivée, 1 pour la relation finale                                                                     |
| <b>Q.4</b>          | 2   | 1 pour la condition et la résolution, 1 pour la valeur numérique                                                              |
| <b>Q.5</b>          | 3   | 1 pour la force de droite, 2 pour la force de gauche                                                                          |
| <b>Q.6</b>          | 2   | 1 pour la 2ème LN, 1 pour la projection sur l'axe Ox                                                                          |
| <b>Q.7</b>          | 2   | 1 pour l'expression de w'0, 1 pour l'expression de T'0 avec comparaison                                                       |
| <b>Q.8</b>          | 2   | 2 pour l'expression de x(t)                                                                                                   |
| <b>Q.9</b>          | 2   | 1 pour la condition, 1 pour l'expression de t2                                                                                |

| <b>Q.10</b>  | 2   | 1 pour l'expression de la vitesse en t2                                  |
|--------------|-----|--------------------------------------------------------------------------|
| <b>Q.11</b>  | 1   | 1 pour le graphique                                                      |
| <b>Q.12</b>  | 1   | 1 pour un retour au mouvement initial                                    |
| <b>Q.13</b>  | 3   | 1 pour Em en O, 1 pour Em quand compression maximale, 1 pour le résultat |
| <b>Q.14</b>  | 2   | 1 pour la réponse et 1 pour le graphique                                 |
| <b>Q.15</b>  | 1   | 1 pour l'expression de T                                                 |
| <b>Q.16</b>  | 1   | 1 pour une justification correcte                                        |
|              |     |                                                                          |
| <b>Total</b> | 120 |                                                                          |

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| Nom                | Total | Note sur 20 | Rang |
|--------------------|-------|-------------|------|
| ALEXANDRE          | 32    | 5,33        | 28   |
| ARNOULD            | 26    | 4,33        | 35   |
| ARNOUT             | 37    | 6,17        | 20   |
| BERGHOUT           | 39,5  | 6,58        | 16   |
| BRANDAO—LAMY       | 26    | 4,33        | 35   |
| BROSSE             | 26,5  | 4,42        | 34   |
| CAYEUX             | 42    | 7,00        | 12   |
| CHARLOT            | 32    | 5,33        | 28   |
| CHATHUANT—LAFDILI  | 33,5  | 5,58        | 24   |
| CHIGNARDET         | 29,5  | 4,92        | 31   |
| CLEAU              | 55    | 9,17        | 4    |
| COQUET             | 31    | 5,17        | 30   |
| DEFAULT            | 49    | 8,17        | 7    |
| DESRUMAUX          | 36,5  | 6,08        | 21   |
| DU                 | 41    | 6,83        | 14   |
| DUPUIS-PIERRET     | 23,5  | 3,92        | 38   |
| DURAND             | 50,5  | 8,42        | 5    |
| EL YACOUBI         | 29,5  | 4,92        | 31   |
| ELAHRACHE          | 33    | 5,50        | 27   |
| FRAITURE           | 33,5  | 5,58        | 24   |
| GOGLINS            | 58    | 9,67        | 2    |
| HACQUIN            | 41,5  | 6,92        | 13   |
| HOUZE              | 34,5  | 5,75        | 22   |
| LABORDERIE         | 50,5  | 8,42        | 5    |
| LAURENT            | 27,5  | 4,58        | 33   |
| LAVEFVE—ZAMBONELLI | 38    | 6,33        | 18   |
| LE                 | 55,5  | 9,25        | 3    |
| LE BITOUX          | 63    | 10,50       | 1    |
| LEBRUN             | 43    | 7,17        | 11   |
| LEFEVRE            | 0     |             |      |
| METIER             | 41    | 6,83        | 14   |
| NALBORCZYK         | 45    | 7,50        | 10   |
| NICOLAS            | 37,5  | 6,25        | 19   |
| PILLANT-RENNSESSON | 34,5  | 5,75        | 22   |
| ROUELLE            | 33,5  | 5,58        | 24   |
| SEMBENI            | 46,5  | 7,75        | 8    |
| SENE               | 39,5  | 6,58        | 16   |
| SOSSON             | 45,5  | 7,58        | 9    |
| VARLET             | 24,5  | 4,08        | 37   |

Statistiques

|                 | Sur 20 | Sur 100 |
|-----------------|--------|---------|
| Moyenne         | 6,43   | 32,14   |
| Nombre de notes | 38     |         |
| Écart-type      | 1,64   |         |
| Médiane         | 6,21   | 31,04   |
| Max             | 10,50  | 52,50   |
| Min             | 3,92   | 19,58   |
|                 |        |         |
|                 |        |         |
|                 |        |         |

ALEXANDRE

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| Q.I.1               | 3      | 3    |  | Q.1                 | 1      | 1    |
| Q.I.2               | 3      | 3    |  | Q.2                 | 1      | 1    |
| Q.I.3               | 2      | 0    |  | Q.3                 | 2      | 2    |
| Q.I.4               | 3      | 0    |  | Q.4                 | 3      | 3    |
| Q.I.5               | 5      | 0    |  | Q.5                 | 2      | 0    |
| Q.I.6               | 1      | 0    |  | Q.6                 | 3      | 3    |
| Q.I.7               | 1      | 0    |  | Q.7                 | 3      | 2    |
| Q.I.8               | 1      | 0    |  | Q.8                 | 2      | 2    |
| Q.I.9               | 4      | 0    |  | Q.9                 | 2      | 2    |
| Q.II.1              | 4      | 0    |  |                     |        |      |
| Q.II.2              | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| Q.II.3              | 1      | 0    |  | Q.1.a               | 1      | 0    |
| Q.II.4              | 1      | 0    |  | Q.1.b               | 2      | 2    |
| Q.III               | 3      | 0    |  | Q.1.c               | 2      | 0    |
|                     |        |      |  | Q.1.d               | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | Q.2.a               | 1,5    | 1    |
| Q.1                 | 2      | 0    |  | Q.2.b               | 1,5    | 0    |
| Q.2.a               | 2      | 0    |  | Q.2.c               | 1      | 0    |
| Q.2.b               | 2      | 1    |  | Q.3.a               | 1      | 0    |
| Q.2.c               | 1      | 0    |  | Q.3.b               | 2      | 0    |
| Q.2.d               | 1      | 0    |  | Q.3.c               | 1      | 0    |
| Q.2.e               | 2      | 0    |  | Q.3.d               | 1      | 0    |
| Q.3.a               | 1      | 1    |  | Q.3.e               | 2      | 0    |
| Q.3.b               | 1      | 1    |  | Q.4                 | 2      | 0    |
| Q.4.a               | 2      | 2    |  | Q.5                 | 3      | 0    |
| Q.4.b               | 2      | 0    |  | Q.6                 | 2      | 0    |
| Q.4.c               | 1      | 0    |  | Q.7                 | 2      | 1    |
| Q.4.d               | 1      | 0    |  | Q.8                 | 2      | 0    |
| Q.5.a               | 1      | 0    |  | Q.9                 | 2      | 0    |
| Q.5.b               | 3      | 0    |  | Q.10                | 2      | 0    |
| Q.5.c               | 1      | 0    |  | Q.11                | 1      | 0    |
| Q.5.d               | 1      | 0    |  | Q.12                | 1      | 0    |
|                     |        |      |  | Q.13                | 3      | 0    |
|                     |        |      |  | Q.14                | 2      | 0    |
|                     |        |      |  | Q.15                | 1      | 0    |
| <b>Total</b>        | 32     |      |  | Q.16                | 1      | 0    |

ARNOULD

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 1,5  |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 0    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 1    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 26     |      |  | <b>Q.16</b>         | 1      | 0    |

# ARNOUT

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 2,5  |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 1    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 1    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 2    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 1    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0,5  |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 37     |      |  | <b>Q.16</b>         | 1      | 0    |

BERGHOUT

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 0    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 0    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0,5  |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0,5  |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 1    |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 1,5  |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 2    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 1    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 1,5  |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 1    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 1    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 1,5  |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 1    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0,5  |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 39,5   |      |  | <b>Q.16</b>         | 1      | 0    |

## BRANDAO—LAMY

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 0    |  | <b>Q.1</b>          | 1      | 0,5  |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 0    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 1    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 1    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 26     |      |  | <b>Q.16</b>         | 1      | 0    |

## BROSSE

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 2    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 1    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 1    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 1    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 26,5   |      |  | <b>Q.16</b>         | 1      | 0    |

## CAYEUX

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 2    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 1    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 2    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 1    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 1,5  |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0,5  |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 0,5  |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 2    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 2    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 3    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 42     |      |  | <b>Q.16</b>         | 1      | 0    |

CHARLOT

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 2    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 1    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 2    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 0    |
| <b>Q.I.7</b>        | 1      | 1    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 1    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 1    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 1    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 32     |      |  | <b>Q.16</b>         | 1      | 0    |

## CHATHUANT – LAFDILI

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 0    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 2    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 2    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 2    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 33,5   |      |  | <b>Q.16</b>         | 1      | 0    |

## CHIGNARDET

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 1    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 1    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 0    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 1,5  |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 1    |  | <b>Q.2.c</b>        | 1      | 0,5  |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0,5  |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 3    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 29,5   |      |  | <b>Q.16</b>         | 1      | 0    |

CLEAU

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 0    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0,5  |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 1    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 1    |
| <b>Q.4.a</b>        | 2      | 2    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 2    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 1    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 1    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 3    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 55     |      |  | <b>Q.16</b>         | 1      | 0    |

## COQUET

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 0    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 1    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0,5  |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1,5  |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 1    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 1    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 31     |      |  | <b>Q.16</b>         | 1      | 0    |

DEFAULT

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 0    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 1    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 1    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 2    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 1    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 1    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 2    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 2    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0,5  |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 2    |  | <b>Q.5</b>          | 3      | 3    |
| <b>Q.4.b</b>        | 2      | 1    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 3    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 1    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 49     |      |  | <b>Q.16</b>         | 1      | 0    |

DESRUMAUX

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 0    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 1    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 0    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 1    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 0,5  |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 0,5  |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 2    |  | <b>Q.5</b>          | 3      | 3    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 1    |  | <b>Q.7</b>          | 2      | 1    |
| <b>Q.4.d</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 36,5   |      |  | <b>Q.16</b>         | 1      | 0    |

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 1,5  |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 2    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0,5  |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 1    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 41     |      |  | <b>Q.16</b>         | 1      | 0    |

DUPUIS-PIERRET

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 0    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 1    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 2    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 1    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 2    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0,5  |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 23,5   |      |  | <b>Q.16</b>         | 1      | 0    |

DURAND

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 2    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0,5  |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 4    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0,5  |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 0    |
| <b>Q.III</b>        | 3      | 1    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 2    |  | <b>Q.3.a</b>        | 1      | 0,5  |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 2    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 2    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0,5  |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 50,5   |      |  | <b>Q.16</b>         | 1      | 0    |

## EL YACOUBI

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 2,5  |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0,5  |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 29,5   |      |  | <b>Q.16</b>         | 1      | 0    |

ELAHRACHE

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 2    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 3    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1,5  |
| <b>Q.I.7</b>        | 1      | 1    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0,5  |
| <b>Q.I.9</b>        | 4      | 1    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 33     |      |  | <b>Q.16</b>         | 1      | 0    |

# FRAITURE

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 2    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 2    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 2    |
| <b>Q.I.7</b>        | 1      | 1    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 33,5   |      |  | <b>Q.16</b>         | 1      | 0    |

GUGLINS

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 0    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 2    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 3    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 4    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 1    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 1    |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0,5  |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 2    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 1    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 1    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 2    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0,5  |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 1    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 58     |      |  | <b>Q.16</b>         | 1      | 0    |

HACQUIN

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 2    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 1    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0,5  |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 1    |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 2    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0,5  |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 1    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 1    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 41,5   |      |  | <b>Q.16</b>         | 1      | 0    |

HOUZE

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 0    |  | <b>Q.1</b>          | 1      | 0,5  |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 1,5  |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0,5  |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 1    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0,5  |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 1    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 34,5   |      |  | <b>Q.16</b>         | 1      | 0    |

## LABORDERIE

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 2    |
| <b>Q.I.7</b>        | 1      | 1    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 1    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 1    |
| <b>Q.2.a</b>        | 2      | 1    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 2    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 1    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 1    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 1    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 50,5   |      |  | <b>Q.16</b>         | 1      | 0    |

LAURENT

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 2    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 1    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0,5  |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0,5  |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 27,5   |      |  | <b>Q.16</b>         | 1      | 0    |

## LAVEFVE-ZAMBONELLI

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 2    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 1    |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 1    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 38     |      |  | <b>Q.16</b>         | 1      | 0    |

## LE

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 1    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 1    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 1    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 1,5  |
| <b>Q.2.a</b>        | 2      | 1    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 2    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0,5  |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 1,5  |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 2    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 3    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 55,5   |      |  | <b>Q.16</b>         | 1      | 1    |

LE BITOUX

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 2    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 2    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 2    |  | <b>Q.4</b>          | 3      | 2    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 1    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0,5  |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 2    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 2    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 1    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 1    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 3    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0,5  |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 63     |      |  | <b>Q.16</b>         | 1      | 0    |

## LEBRUN

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 1    |  | <b>Q.2</b>          | 1      | 0    |
| <b>Q.I.3</b>        | 2      | 2    |  | <b>Q.3</b>          | 2      | 1    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 1    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 2    |
| <b>Q.I.7</b>        | 1      | 1    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 1    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 1    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 2    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0,5  |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 3    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 1    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 1    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 43     |      |  | <b>Q.16</b>         | 1      | 0    |

## LEFEVRE

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 0    |  | <b>Q.1</b>          | 1      | 0    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 0    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 0    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 0    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 0    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 0    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0    |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 0      |      |  | <b>Q.16</b>         | 1      | 0    |

# METIER

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 0,5  |
| <b>Q.I.2</b>        | 3      | 2    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 1    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 3    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 0    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 1    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 41     |      |  | <b>Q.16</b>         | 1      | 0    |

## NALBORCZYK

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 2    |  | <b>Q.4</b>          | 3      | 2    |
| <b>Q.I.5</b>        | 5      | 2    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 0    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 0    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 1    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 2    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0,5  |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0,5  |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 3    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 45     |      |  | <b>Q.16</b>         | 1      | 0    |

NICOLAS

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 0    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 1    |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 1    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 1    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 1,5  |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 37,5   |      |  | <b>Q.16</b>         | 1      | 0    |

PILLANT-RENNESON

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 1    |  | <b>Q.3</b>          | 2      | 1,5  |
| <b>Q.I.4</b>        | 3      | 0    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 0    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 2    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0,5  |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 1    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 34,5   |      |  | <b>Q.16</b>         | 1      | 0    |

ROUELLE

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 0    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 0    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1,5  |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 2    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 1    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 33,5   |      |  | <b>Q.16</b>         | 1      | 0    |

## SEMBENI

|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 2    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 3    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0,5  |  | <b>Q.6</b>          | 3      | 3    |
| <b>Q.I.7</b>        | 1      | 1    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 4    |  | <b>Q.9</b>          | 2      | 1    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 1    |  | <b>Q.1.a</b>        | 1      | 0,5  |
| <b>Q.II.4</b>       | 1      | 1    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 1    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 1    |
| <b>Q.2.a</b>        | 2      | 0    |  | <b>Q.2.c</b>        | 1      | 1    |
| <b>Q.2.b</b>        | 2      | 0    |  | <b>Q.3.a</b>        | 1      | 1    |
| <b>Q.2.c</b>        | 1      | 0    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 2    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 46,5   |      |  | <b>Q.16</b>         | 1      | 0    |

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|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 2    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 1,5  |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 1    |  | <b>Q.6</b>          | 3      | 0    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 0    |
| <b>Q.I.8</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 1    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 0    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 0    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 0,5  |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 1,5  |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 0,5  |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 0,5  |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 1    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 1    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0,5  |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 2    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 2    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 1    |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 39,5   |      |  | <b>Q.16</b>         | 1      | 0    |

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|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 0    |
| <b>Q.I.2</b>        | 3      | 2    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 0    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 3    |
| <b>Q.I.5</b>        | 5      | 3    |  | <b>Q.5</b>          | 2      | 0    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 2    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 2    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 0    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 2    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 1    |
| <b>Q.1</b>          | 2      | 2    |  | <b>Q.2.b</b>        | 1,5    | 0,5  |
| <b>Q.2.a</b>        | 2      | 2    |  | <b>Q.2.c</b>        | 1      | 0,5  |
| <b>Q.2.b</b>        | 2      | 1    |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 1    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 2    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 1    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 1    |  | <b>Q.5</b>          | 3      | 2    |
| <b>Q.4.b</b>        | 2      | 1    |  | <b>Q.6</b>          | 2      | 2    |
| <b>Q.4.c</b>        | 1      | 0,5  |  | <b>Q.7</b>          | 2      | 2    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 45,5   |      |  | <b>Q.16</b>         | 1      | 0    |

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|                     | Barème | Note |  |                     | Barème | Note |
|---------------------|--------|------|--|---------------------|--------|------|
| <b>Problème n°1</b> |        |      |  | <b>Problème n°3</b> |        |      |
| <b>Q.I.1</b>        | 3      | 3    |  | <b>Q.1</b>          | 1      | 1    |
| <b>Q.I.2</b>        | 3      | 3    |  | <b>Q.2</b>          | 1      | 1    |
| <b>Q.I.3</b>        | 2      | 0    |  | <b>Q.3</b>          | 2      | 0    |
| <b>Q.I.4</b>        | 3      | 3    |  | <b>Q.4</b>          | 3      | 1    |
| <b>Q.I.5</b>        | 5      | 0    |  | <b>Q.5</b>          | 2      | 2    |
| <b>Q.I.6</b>        | 1      | 0    |  | <b>Q.6</b>          | 3      | 1    |
| <b>Q.I.7</b>        | 1      | 0    |  | <b>Q.7</b>          | 3      | 1    |
| <b>Q.I.8</b>        | 1      | 1    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.I.9</b>        | 4      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.II.1</b>       | 4      | 0    |  |                     |        |      |
| <b>Q.II.2</b>       | 4      | 0    |  | <b>Problème n°4</b> |        |      |
| <b>Q.II.3</b>       | 1      | 0    |  | <b>Q.1.a</b>        | 1      | 1    |
| <b>Q.II.4</b>       | 1      | 0    |  | <b>Q.1.b</b>        | 2      | 2    |
| <b>Q.III</b>        | 3      | 0    |  | <b>Q.1.c</b>        | 2      | 1    |
|                     |        |      |  | <b>Q.1.d</b>        | 1      | 1    |
| <b>Problème n°2</b> |        |      |  | <b>Q.2.a</b>        | 1,5    | 0,5  |
| <b>Q.1</b>          | 2      | 0    |  | <b>Q.2.b</b>        | 1,5    | 0    |
| <b>Q.2.a</b>        | 2      | 0,5  |  | <b>Q.2.c</b>        | 1      | 0    |
| <b>Q.2.b</b>        | 2      | 0,5  |  | <b>Q.3.a</b>        | 1      | 0    |
| <b>Q.2.c</b>        | 1      | 1    |  | <b>Q.3.b</b>        | 2      | 0    |
| <b>Q.2.d</b>        | 1      | 0    |  | <b>Q.3.c</b>        | 1      | 0    |
| <b>Q.2.e</b>        | 2      | 0    |  | <b>Q.3.d</b>        | 1      | 0    |
| <b>Q.3.a</b>        | 1      | 0    |  | <b>Q.3.e</b>        | 2      | 0    |
| <b>Q.3.b</b>        | 1      | 0    |  | <b>Q.4</b>          | 2      | 0    |
| <b>Q.4.a</b>        | 2      | 0    |  | <b>Q.5</b>          | 3      | 0    |
| <b>Q.4.b</b>        | 2      | 0    |  | <b>Q.6</b>          | 2      | 0    |
| <b>Q.4.c</b>        | 1      | 0    |  | <b>Q.7</b>          | 2      | 0    |
| <b>Q.4.d</b>        | 1      | 0    |  | <b>Q.8</b>          | 2      | 0    |
| <b>Q.5.a</b>        | 1      | 0    |  | <b>Q.9</b>          | 2      | 0    |
| <b>Q.5.b</b>        | 3      | 0    |  | <b>Q.10</b>         | 2      | 0    |
| <b>Q.5.c</b>        | 1      | 0    |  | <b>Q.11</b>         | 1      | 0    |
| <b>Q.5.d</b>        | 1      | 0    |  | <b>Q.12</b>         | 1      | 0    |
|                     |        |      |  | <b>Q.13</b>         | 3      | 0    |
|                     |        |      |  | <b>Q.14</b>         | 2      | 0    |
|                     |        |      |  | <b>Q.15</b>         | 1      | 0    |
| <b>Total</b>        | 24,5   |      |  | <b>Q.16</b>         | 1      | 0    |