

## 2012 ANU Maths Day Swiss Contest

Supervisor

### SWISS CONTEST ROUND 1

**Hint:** The backward student should score a few more marks on this question.

**BOARD:**

|    |    |    |    |    |    |     |    |    |    |     |     |     |     |      |      |      |
|----|----|----|----|----|----|-----|----|----|----|-----|-----|-----|-----|------|------|------|
| x: | 12 | 21 | 29 | 30 | 64 | 127 | 69 | 58 | 47 | 637 | -21 | -32 | 898 | -301 | -507 | -111 |
| y: | 26 | 17 | 97 | 8  |    |     |    |    |    |     |     |     |     |      |      |      |

**TALLY:**

**ANSWERS**

(5 points per correct answer)

| SITE        | TEAM CODE | y:     | 51 | 726 | 101 | 90 | 79 | 741 | -7 | -18 | 903 | -98 | -700 | -106 | TOTAL |
|-------------|-----------|--------|----|-----|-----|----|----|-----|----|-----|-----|-----|------|------|-------|
|             |           | Points |    |     |     |    |    |     |    |     |     |     |      |      |       |
|             |           | Points |    |     |     |    |    |     |    |     |     |     |      |      |       |
| Difference: |           |        |    |     |     |    |    |     |    |     |     |     |      |      |       |

**VICTORY POINTS:**

Team Code

|        |  |                            |
|--------|--|----------------------------|
| Winner |  | 30 + Difference (max 60) = |
| Loser  |  | 30 – Difference (min 0) =  |

**Rule:** Reverse the digits of x and add 5 to obtain y.

**Note:** The Supervisors should emphasise each student will be allowed only one go per turn at each number - no corrections.

## 2012 ANU Maths Day Swiss Contest

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### SWISS CONTEST ROUND 2

**Hint: Farmers (and other primary producers) should do well this round.**

**BOARD:**

|    |   |   |   |   |   |    |    |    |    |     |     |     |     |     |     |      |
|----|---|---|---|---|---|----|----|----|----|-----|-----|-----|-----|-----|-----|------|
| x: | 1 | 2 | 3 | 5 | 4 | 21 | 53 | 74 | 84 | 139 | 149 | 181 | -73 | 226 | 228 | 1000 |
| y: | 2 | 3 | 5 | 7 |   |    |    |    |    |     |     |     |     |     |     |      |

**TALLY:**

**ANSWERS**

(5 points per correct answer)

| SITE        | TEAM CODE | y:     | 5 | 23 | 59 | 79 | 89 | 149 | 151 | 191 | 2 | 227 | 229 | 1009 | TOTAL |
|-------------|-----------|--------|---|----|----|----|----|-----|-----|-----|---|-----|-----|------|-------|
|             |           | Points |   |    |    |    |    |     |     |     |   |     |     |      |       |
|             |           | Points |   |    |    |    |    |     |     |     |   |     |     |      |       |
| Difference: |           |        |   |    |    |    |    |     |     |     |   |     |     |      |       |

**VICTORY POINTS:**

Team Code

|        |  |                            |
|--------|--|----------------------------|
| Winner |  | 30 + Difference (max 60) = |
| Loser  |  | 30 – Difference (min 0) =  |

**Rule: y is the first prime bigger than x.**

**Note: The Supervisors should emphasise each student will be allowed only one go per turn at each number - no corrections.**

## 2012 ANU Maths Day Swiss Contest

Supervisor

### SWISS CONTEST ROUND 3

**Hint: In these digital times, it's easy to succeed.**

**BOARD:**

|    |    |    |    |    |    |     |     |    |    |      |     |     |     |     |      |       |
|----|----|----|----|----|----|-----|-----|----|----|------|-----|-----|-----|-----|------|-------|
| x: | 12 | 29 | 30 | 64 | 21 | 127 | 129 | 69 | 58 | 1111 | 999 | 987 | -11 | 777 | 4444 | 44444 |
| y: | 3  | 19 | 1  | 25 |    |     |     |    |    |      |     |     |     |     |      |       |

**TALLY:**

**ANSWERS**

(5 points per correct answer)

| SITE        | TEAM CODE | y:     | 3 | 15 | 19 | 55 | 41 | 2 | 730 | 505 | 0 | 344 | 257 | 1025 | TOTALS |
|-------------|-----------|--------|---|----|----|----|----|---|-----|-----|---|-----|-----|------|--------|
|             |           | Points |   |    |    |    |    |   |     |     |   |     |     |      |        |
|             |           | Points |   |    |    |    |    |   |     |     |   |     |     |      |        |
| Difference: |           |        |   |    |    |    |    |   |     |     |   |     |     |      |        |

**VICTORY POINTS:**

Team Code

|        |  |                            |
|--------|--|----------------------------|
| Winner |  | 30 + Difference (max 60) = |
| Loser  |  | 30 – Difference (min 0) =  |

**Rule: y is the product of the digits of x plus 1.**

**Note: The Supervisors should emphasise each student will be allowed only one go per turn at each number - no corrections.**

## 2012 ANU Maths Day Swiss Contest

Supervisor

### SWISS CONTEST ROUND 4

**Hint: You will have to basically be unlucky to do well this round.**

**BOARD:**

|    |   |    |    |    |    |   |    |    |     |    |     |     |     |     |     |      |
|----|---|----|----|----|----|---|----|----|-----|----|-----|-----|-----|-----|-----|------|
| x: | 6 | 16 | 10 | 30 | 25 | 1 | 11 | 60 | 100 | 17 | 117 | 224 | 111 | 335 | 446 | 1000 |
| y: | 6 | 19 | 13 | 39 |    |   |    |    |     |    |     |     |     |     |     |      |

**TALLY:**

**ANSWERS**

(5 points per correct answer)

| SITE        | TEAM CODE | y:     | 31 | 1 | 14 | 78 | 169 | 20 | 189 | 368 | 183 | 551 | 734 | 2197 | TOTAL |
|-------------|-----------|--------|----|---|----|----|-----|----|-----|-----|-----|-----|-----|------|-------|
|             |           | Points |    |   |    |    |     |    |     |     |     |     |     |      |       |
|             |           | Points |    |   |    |    |     |    |     |     |     |     |     |      |       |
| Difference: |           |        |    |   |    |    |     |    |     |     |     |     |     |      |       |

**VICTORY POINTS:**

Team Code

|        |  |                            |
|--------|--|----------------------------|
| Winner |  | 30 + Difference (max 60) = |
| Loser  |  | 30 – Difference (min 0) =  |

**Rule: x is base 13, y is base 10.**

**Note: The Supervisors should emphasise each student will be allowed only one go per turn at each number - no corrections.**

## 2012 ANU Maths Day Swiss Contest

Supervisor

### SWISS CONTEST ROUND 5

**Hint:** Some of us are twice as good as others, while others are half as good as some.

**Special Note:** In this round answers are to be given in full; e.g. if the answer is 1234 then it is to be spoken as “one thousand, two hundred and thirty-four”, NOT “one two three four” or “twelve thirty-four” etc.

**BOARD:**

|    |   |   |    |    |    |    |     |    |    |    |     |     |     |     |     |     |
|----|---|---|----|----|----|----|-----|----|----|----|-----|-----|-----|-----|-----|-----|
| x: | 4 | 3 | 12 | 10 | 94 | 71 | 136 | 25 | 37 | 99 | 896 | 787 | 567 | 658 | 989 | 101 |
| y: | 2 | 6 | 21 | 20 |    |    |     |    |    |    |     |     |     |     |     |     |

**TALLY:**

(5 points per correct answer)

**ANSWERS**

| SITE        | TEAM CODE | y:     | 182 | 142 | 263 | 110 | 614 | 1818 | 4183 | 14414 | 10314 | 3104 | 18418 | 202 | TOTAL |
|-------------|-----------|--------|-----|-----|-----|-----|-----|------|------|-------|-------|------|-------|-----|-------|
|             |           | Points |     |     |     |     |     |      |      |       |       |      |       |     |       |
|             |           | Points |     |     |     |     |     |      |      |       |       |      |       |     |       |
| Difference: |           |        |     |     |     |     |     |      |      |       |       |      |       |     |       |

**VICTORY POINTS:**

Team Code

|        |  |                            |
|--------|--|----------------------------|
| Winner |  | 30 + Difference (max 60) = |
| Loser  |  | 30 – Difference (min 0) =  |

**Rule:** Halve the even digits, double the odd digits of x to obtain y.

**Note:** The Supervisors should emphasise each student will be allowed only one go per turn at each number - no corrections