**End of Unit Test** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Integers, Powers and Roots - HIGHER**

1. 2m = 32 and 9p = 3m. Work out the values of m and p

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

m = ................................. p = .................................

**(Total 4 marks)**

2. (a) Circle the value of 3–2

–6 –9

**(1)**

(b) Work out the value of

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

Answer .................................................................................

**(3)**

**(Total 4 marks)**

3. Work out the value of 5.4 × 105 × 2 × 10−2

Give your answer in standard form.

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

Answer ......................................................................

**(Total 2 marks)**

4. Here is some information about tourism in 2012

|  |  |  |
| --- | --- | --- |
| **Country visited** | **Number of tourists** | **Total spent by tourists ($)** |
| France | 8.30 × 107 | 5.360 × 1010 |
| USA | 6.20 × 107 | 1.262 × 1011 |
| Spain | 5.77 × 107 | 5.590 × 1010 |

21% of the total spent by tourists in the USA was by Canadians.

One third of tourists in the USA were Canadians.

**Estimate** the average amount spent per Canadian tourist in the USA.

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

Answer $ ....................................................................

**(Total 3 marks)**

5. Write this ratio in its simplest form

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

Answer....................... : ....................... : .......................

**(Total 3 marks)**

6. (a) Rationalise the denominator and simplify

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

Answer ...................................................................................

**(2)**

(b) Expand and simplify Give your answer in the form

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

…………………………………………………………………………………………………………

Answer ...................................................................................

**(2)**

**(Total 4 marks)**

**(Total for test = 20 marks)**