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

**Integers, Powers and Roots - FOUNDATION**

1) Here are some properties of numbers.

A Even

B Odd

C Prime

D Square

E Two-digit

(a) Which two properties does the number 4 have? Circle the correct letters.

A B C D E

**(1)**

(b) Can one number have all of the properties? Tick a box.

🞏 Yes 🞏 No 🞏 Cannot tell

Give a reason for your answer.

…………………………………………………………………………………………………

…………………………………………………………………………………………………

**(1)**

(c) Write down a number with three of the properties. State which properties it has.

…………………………………………………………………………………………………

…………………………………………………………………………………………………

Number ........................

Properties ........................, ........................, ........................

**(2)**

**(Total 4 marks)**

2. Written as the product of its prime factors 672 = 2⁵ × 3 × 7

(a) Write 252 as the product of its prime factors.

…………………………………………………………………………………………………

…………………………………………………………………………………………………

…………………………………………………………………………………………………

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

**(2)**

(b) Work out the value of the highest common factor of 672 and 252

…………………………………………………………………………………………………

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

**(1)**

**(Total 3 marks)**

3. (a) Write down the value of 53

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

**(1)**

(b) Write down the value of √81

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

**(1)**

(c) Between which two consecutive whole numbers does √40 lie?

…………………………………………………………………………………………………

…………………………………………………………………………………………………

Answer ............................... and .............................

**(2)**

**(Total 4 marks)**

4. Simplify 3⁴ × 3⁴. Circle the answer.

3⁸ 9⁸ 3¹⁶ 9¹⁶

**(Total 1 mark)**

5. (a) Work out the value of 81 + 80

…………………………………………………………………………………………………

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

**(2)**

(b) Write 610 ÷ 62 as a single power of 6

…………………………………………………………………………………………………

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

**(1)**

(c) Simplify fully 5x3y2 × 3x4y3

…………………………………………………………………………………………………

…………………………………………………………………………………………………

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

**(2)**

**(Total 5 marks)**

6. (a) Circle the answer to 9.6 × 108 ÷ 4

9.6 × 102 2.4 × 102 2.4 × 108 9.6 × 104

**(1)**

(b) Work out (4 × 10-3) × (9 × 1014). Give your answer in standard form.

…………………………………………………………………………………………………

…………………………………………………………………………………………………

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

**(2)**

**(Total 3 marks)**

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