1 Work out the lowest common multiple (LCM) of 120 and 144

[2 marks]

Answer _____

2 Write 200 as a product of prime factors.

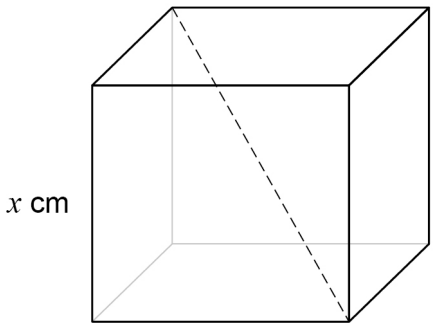
Give your answer in index form.

[3 marks]

Answer _____

3 Here is a cube with edge length x cm

One diagonal is shown.



3 (a) The total length, in centimetres, of the edges of the cube is a multiple of 18

Circle the correct statement.

[1 mark]

x is a whole number	x is not a whole number	x might be a whole number

4 Erik thinks of a prime number between 20 and 30

His number is x% of 125

Work out **one** possible value of x.

[3 marks]

Answer _____

5 Show that 2125 can be written as

a cube number **multiplied** by a prime number between 10 and 20

[2 marks]

6 Q and R are two numbers.

As a product of prime factors,

$$Q = 2^3 \times 3 \times a^3$$

$$R = 2^4 \times 3^2 \times a^2$$

6 (a) The highest common factor (HCF) of Q and R is 4056

Work out the value of a.

[2 marks]

$a =$ _____

6 (b) Work out the lowest common multiple (LCM) of Q and R.

[2 marks]

Answer _____

7 Two prime numbers are multiplied together.

The answer is an **even** number between 50 and 60

Complete the calculation.

[3 marks]

$$\square \times \square = \square$$

8 Written as the product of prime factors,

$12\,600 = 2^3 \times 3^2 \times 5^2 \times 7$

and

$14\,112 = 2^5 \times 3^2 \times 7^2$

Work out the highest common factor (HCF) of 12 600 and 14 112

Give your answer as an integer.

[2 marks]

Answer _____

9 (a) a and b are different prime numbers.

$a^3 \times b^2 = 200$

Work out the value of $a^4 \times b$

[3 marks]

Answer _____

9 (b) c and d are different prime numbers.

Circle the equation for which $c^4 \times d^2 \times e$ is a cube number.

[1 mark]

$e = cd$ $e = c^2d$ $e = c^2d^2$ $e = c^3d^3$