

Factors, Multiples, Primes, Squares and Cubes

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **26**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Here is a list of numbers.

4 9 12 17 21 27 36 64

From the list, write down

(a) a multiple of 7

[1 mark]

Answer _____

(b) a factor of 24

[1 mark]

Answer _____

(c) a prime number

[1 mark]

Answer _____

(d) a cube number

[1 mark]

Answer _____

(e) a number that is both a square number and a cube number

[1 mark]

Answer _____

2 Write down all the factors of 30

[2 marks]

Answer _____

3 Write a number in each box to make the calculation correct.

(a) Use two different factors of 36

$$\boxed{} + \boxed{} = 13$$

[1 mark]

(b) Use a cube number and a square number

$$\boxed{} + \boxed{} = 17$$

[1 mark]

4 Circle the prime number.

[1 mark]

21

27

29

33

5 Write down the first five multiples of 8

[1 mark]

Answer _____

6 Sian says,
‘All prime numbers are odd.’

Is Sian correct? Tick a box.
Give a reason for your answer.

[1 mark]

☐ Yes

☐ No

7 Work out the sum of the prime numbers between 20 and 40

[2 marks]

Answer _____

8 (a) Work out 7^2

[1 mark]

Answer _____

(b) Work out $\sqrt{81}$

[1 mark]

Answer _____

(c) Work out 5^3

[1 mark]

Answer _____

(d) Work out $\sqrt[3]{8}$

[1 mark]

Answer _____

9 Find a number that is a factor of 60 **and** a multiple of 4 **and** greater than 10

[2 marks]

Answer _____

10 Explain why 51 is not a prime number.

[1 mark]

- 11** n is an integer greater than 1
Circle the expression that is **always** a square number.

[1 mark]

$2n$

$n + 4$

$4n^2$

n^3

- 12** Kofi chooses a multiple of 5 and a prime number.

- (a) He subtracts the prime number from the multiple of 5
His answer is a cube number.
Write down a possible pair of numbers.

multiple of 5 = _____ prime number = _____

[1 mark]

- (b) He multiplies the two numbers together.
His answer is an even number less than 30
Write down a possible pair of numbers.

multiple of 5 = _____ prime number = _____

[1 mark]

- 13** The difference between two prime numbers is 9
Work out the two prime numbers.

[2 marks]

Answer _____