

Factors and Multiples

Question Paper 1

Level	OCR
Subject	Maths
Exam Board	GCSE (9-1)
Topic	Number Operators and Integers
Sub Topic	Factors and Multiples
Grade Level	Grade 1/2
Booklet	Question Paper 1

Time Allowed: 54 minutes

Score: /45

Percentage: /100

- 1 (a) Express 24 as a product of its prime factors.

(a) _____ [2]

- (b) Two numbers have a highest common factor of 24 and a least common multiple of 4200.
Neither of the numbers is 24.

Find the two numbers, showing how you decide.

(b) _____ and _____ [3]

2 (a) Multiply out.

$$3(2a - 5)$$

(a) _____ [2]

(b) Factorise.

$$b^2 + 7b$$

(b) _____ [1]

3 (a) Solve.

$$5(2x - 3) = 1$$

(a) _____ [3]

(b) Factorise completely.

$$6a^2 - 10a$$

(b) _____ [2]

(c) One solution of the equation $3x^2 = 108$ is $x = 6$.

Write down the other solution.

(c) _____ [1]

4 (a) Simplify fully.

$$\frac{40x^3}{5x}$$

(a) _____ [2]

(b) Multiply out and simplify fully.

$$3(x - 1) + 4(2x - 5)$$

(b) _____ [3]

5 (a) Factorise completely.

$$4x^2 - 6xy$$

(a) _____ [2]

(b) Multiply out and simplify.

$$(x + 7)(x + 2)$$

(b) _____ [2]

6 (a) Express 90 as a product of its prime factors.

(a) _____ [2]

(b) A factory has a buzzer which sounds every 90 minutes.
It also has a bell which sounds every 150 minutes.
The buzzer and bell sound together at 9 am.

At what time do they next sound together?

(b) _____ [3]

7 (a) Multiply out.

$$3(7x + 6)$$

(a) _____ [2]

(b) Multiply out and simplify fully.

$$6(y - 5) + 2(3 + 2y)$$

(b) _____ [3]

8 (a) Multiply out.

$$2x(3x - 5)$$

(a) _____ **[2]**

(b) Factorise.

$$10xy + 15y^2$$

(b) _____ **[2]**

9 (a) Multiply out.

$$x(x^2 - 3x + 1)$$

(a) _____ [3]

(b) Multiply out and simplify.

$$3(4x + 1) - 2(5x + 6)$$

(b) _____ [3]

(c) Multiply out and simplify.

$$(x - 10)(x + 2)$$

(c) _____ [2]