

Simplify/Expand/Factorise

Question Paper 1

Level	IGCSE
Subject	Maths
Exam Board	Edexcel
Topic	Equations, Formulae and Identities
Sub Topic	Simplify/Expand/Factorise(Algebraic manipulation)
Booklet	Question Paper 1

Time Allowed: 59 minutes

Score: /49

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	75%	70%	60%	55%	50%	<50%

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1 (a) Factorise $w^2 - 9w$.

.....
(2)

(b) Solve $5x - 1 = 2x - 7$

$x =$
(3)

(c) Expand and simplify $(y - 7)(y + 3)$.

.....
(2)

(Total for Question 1 is 7 marks)

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2 (a) Simplify

(i) $a \times a \times a \times a$,

.....

(ii) $5a \times 6b$,

.....

(iii) $q^8 \div q^2$.

.....

(3)

(b) Solve $5 - 2y = 12$

$y =$

(2)

(c) $v = w^2 - 2w$.

Work out the value of v when $w = 6$

$v =$

(2)

(Total for Question 2 is 7 marks)

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3 (a) Simplify $\frac{8(x-3)^2}{4(x-3)}$

.....
(2)

(b) Factorise $a^2 - 144$

.....
(2)

(c) Make q the subject of the formula $p = \sqrt{q} - 5r$

$q =$
(2)

(d) So $\frac{4}{y-4} = 5$

$y =$
(3)

(Total for Question 3 is 9 marks)

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4 (a) Factorise $5a - 3a^2$

.....
(2)

(b) Expand

(i) $2(4 - 3w)$

.....

(ii) $y^2(y + 10)$

(c) $W = \frac{5.6a}{b^2}$

.....
(3)

$a = 1.28$ $b = 0.8$

Work out the value of W .

$W =$
(2)

(Total for Question 4 is 7 marks)

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5 (a) Expand and simplify

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

.....

(ii) $(y + 5)(y - 7)$

.....

(4)

(b) Make r the subject of the formula $V = \pi r^2 h$ where r is positive.

$r =$

(2)

(Total for Question 5 is 6 marks)

6 (a) Factorise $n^2 + 8n$

.....

(2)

(b) Expand and simplify $3(2x - 5) - 4(x + 3)$

.....

(2)

(c) Expand and simplify $(y + 7)(y + 2)$

.....

(2)

(Total for Question 6 is 6 marks)

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7 (a) Simplify $5c \times 4c$

.....
(1)

(b) Factorise $4x + x^2$

.....
(2)

(c) Work out the value of $y^3 + 5y$ when $y = 2$

.....
(2)

(Total for Question 7 is 5 marks)

8 Factorise completely $(12x - y)^2 - (4x - 3y)^2$

.....
(Total for Question 8 is 2 marks)