

Oxford Revise | Edexcel GCSE Maths Foundation | Answers

Chapter 6 Algebra and expressions

Question	Answer	Extra information	Marks
6.1 (a)	$2x + 3x - x = 4x$		1
6.1 (b)	$3p - 5q + 7q - 2q + 4p = 7p$	$7p$ or $0q$ Correct answer	1 1
6.1 (c)	$7 + 5t - 2 - 9t = 5 - 4t$	5 or $-4t$ Correct answer	1 1
6.2 (a)	$x^2 + 4x + 3x^2 - 6x + 1 = 4x^2 - 2x + 1$	$4x^2$ or $-2x$ Correct answer	1 1
6.2 (b)	$9mn - 2m^2 + 7nm + 11m^2 = 16mn + 9m^2$	$16mn$ or $9m^2$ Correct answer	1 1
6.3	$2x + 3y$	$2x$ or $3y$ Correct answer (also accept $3y + 2x$)	1 1
6.4	$7 + 4p + 3q$	Terms in any order	1
6.5	$2x + x + 2 + x - 1 + 3x = 7x + 1$	Add all sides Correct answer	1 1

Question	Answer	Extra information	Marks
6.6	$x + 2x + (3x + 3) = 6x + 3$	$2x$ for Gabriella $3x + 3$ for Paulo Correct answer	1 1 1
6.7 (a)	Cost = $80 + 5 \times 15 = \text{£}155$	Substitution Correct answer	1 1
6.7 (b)	$\frac{275 - 80}{15} = 13$ hours	195 or subtract 80 Correct answer	1 1
6.8 (a)	$2a + 3b = 2 \times 5 + 3 \times 2 = 16$	Substitution Correct answer	1 1
6.8 (b)	$10 - c = 10 - (-4) = 10 + 4 = 14$	Substitution Correct answer	1 1
6.8 (c)	$\frac{8a}{c} = \frac{8 \times 5}{-4} = \frac{40}{-4} = -10$	Substitution Correct answer	1 1
6.8 (d)	$ac + b = 5 \times (-4) + 2 = -20 + 2 = -18$	Substitution Correct answer	1 1
6.9 (a)	$d = \frac{c + 5}{2} = \frac{9}{2}$	Substitution Correct answer (including 4.5)	1 1
6.9 (b)	$d = c^2 - 3c = 16 - 12 = 4$	Substitution Correct answer	1 1

Question	Answer	Extra information	Marks
6.9 (c)	$c = 2d - 12$ $4 = 2d - 12$ $d = \frac{4+12}{2} = 8$	Substitution Rearranging Correct answer	1 1 1
6.10	$a = \frac{v-u}{t} = \frac{24-0}{8} = 3 \text{ m s}^{-2}$	Substitution Correct answer	1 1
6.11 (a)	$5x+15$		1
6.11 (b)	$6x^2 - 2xy$		1
6.12 (a)	$2(x+4) + 3(x-8) = 2x+8+3x-24$ $= 5x-16$	Expand first set of brackets Expand second set of brackets Correct answer	1 1 1
6.12 (b)	$9(x+2) - 4(2x-1) = 9x+18-8x+4$ $= x+22$	Expand first set of brackets Expand second set of brackets Correct answer	1 1 1
6.12 (c)	$4(y+3) - (y+2) = 4y+12-y-2$ $= 3y+10$	Expand first set of brackets Expand second set of brackets Correct answer	1 1 1
6.13	$\text{Area} = \frac{1}{2} \times 3z \times (2x+8)$	Area of triangle formula Correct answer	1 1

Question	Answer	Extra information	Marks
6.14	Area of square = $(3x)^2 = 9x^2$ Area of rectangle = $2x^2 - 8x$ Difference in areas = $9x^2 - (2x^2 - 8x) = 7x^2 + 8x$	Area of square Area of rectangle Correct answer	1 1 1
6.15 (a)	$2(2x + 3y)$		1
6.15 (b)	$3(2a + 5b)$		1
6.15 (c)	$p(q - 2)$		1
6.16 (a)	$5x(4x - 1)$	Remove any common factor Correct answer	1 1
6.16 (b)	$4x(4 + 3y)$	Remove any common factor Correct answer	1 1
6.16 (c)	$xy(x + y)$	Remove any common factor Correct answer	1 1
6.16 (d)	$2p(4 - 2pq + 3q)$	Remove any common factor Correct answer	1 1
6.17 (a)	$n - 2$		1
6.17 (b)	$n - 2 + 11 = n + 9$		1

Question	Answer	Extra information	Marks
6.18	3g		1
6.19 (a)	86.4	Divide 864 by 10	1
6.19 (b)	8.64	Multiply by 100 then divide by 10 000	1
6.19 (c)	19.2	You know that $864 \div 4.5 = 192$ Divide 192 by 100 because 864 is now 8.64 Multiply by 10 since 4.5 is now 0.45	1
6.20	$60\,000 - 3500 = 56\,500$ $= 5.65 \times 10^4$	60 000 or 3500 56 500 Correct answer	1 1 1