Name: SOLUTIONS

GCSE (1 - 9)

Expanding and Factorising



Solutions by
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These questions are compiled from *released* Pearson Edexcel GCSE maths exam papers
They contain exam questions from up until the ***Summer 2023*** exam series
More recent exam papers do exist but are withheld for mock exams
As new exam papers are released these worksheets will gradually be updated
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Question	Where the question appeared
1	Edexcel, GCSE, Summer 2017, Paper 2F, Q14
2	Edexcel, GCSE, Autumn 2017, Paper 2F, Q24
3	Edexcel, GCSE, Autumn 2017, Paper 3F, Q17
4	Edexcel, GCSE, Summer 2018, Paper 1F, Q16
5	Edexcel, GCSE, Summer 2018, Paper 3F, Q20
6	Edexcel, GCSE, Autumn 2018, Paper 2F, Q19
7	Edexcel, GCSE, Autumn 2018, Paper 2F, Q26
8	Edexcel, GCSE, Summer 2019, Paper 1F, Q16
9	Edexcel, GCSE, Autumn 2019, Paper 3F, Q22
10	Edexcel, GCSE, Autumn 2020, Paper 1F, Q19

1

(a) Factorise $5 - 10m$

$5(1 - 2m)$

(1)

(b) Factorise fully $2a^2b + 6ab^2$

$2ab(a + 3b)$

(2)

(Total for Question 14 is 3 marks)

[Edexcel, GCSE, Summer 2017, Paper 2F, Q14]

2

(a) Solve $2x^2 = 72$

$2x^2 = 72$

$x^2 = 36$

$x = \sqrt{36}$

$x = \pm 6$

± 6

(2)

(b) Expand and simplify $(2x + 1)(3x - 2)$

$6x^2 - 4x + 3x - 2$

$6x^2 - x - 2$

(2)

(c) Factorise $x^2 + 6x + 9$

$(x + 3)(x + 3)$

$(x+3)(x+3)$

(1)

(Total for Question 24 is 5 marks)

[Edexcel, GCSE, Autumn 2017, Paper 2F, Q24]

3

(a) Factorise $4m + 12$

$4(m+3)$

(1)

expression	equation	formula	identity
inequality	term	factor	multiple

(b) Choose two words from the box above to make this statement correct.

$5y$ is a term in the expression $3x + 5y$

(2)

(Total for Question 17 is 3 marks)

[Edexcel, GCSE, Autumn 2017, Paper 3F, Q17]

4

$P = 4x + 3y$

$x = 5$

$y = -2$

(a) Work out the value of P.

$P = 4(5) + 3(-2)$

$P = 20 - 6$

14

(2)

(b) Expand $4e(e + 2)$

$4e^2 + 8e$

$4e^2 + 8e$

(2)

(c) Solve $3(m - 4) = 21$

$3(m-4) = 21$

$\div 3$ $m - 4 = 7$ $\div 3$

$+4$ $m = 11$ $+4$

$m =$ 11

(2)

(Total for Question 16 is 6 marks)

[Edexcel, GCSE, Summer 2018, Paper 1F, Q16]

5

Expand and simplify $5(p + 3) - 2(1 - 2p)$

$5p + 15 - 2 + 4p = 9p + 13$

$9p + 13$

(Total for Question 20 is 2 marks)

[Edexcel, GCSE, Summer 2018, Paper 3F, Q20]

6

(a) Solve $3(x - 4) = 12$

$3(x-4) = 12$

$\div 3$ ↓ $x - 4 = 4$ $\div 3$

$+4$ ↓ $x = 8$ $+4$

$x =$ 8

(2)

(b) Factorise fully $9b - 3b^2$

$3b(3 - b)$

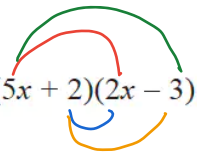
(2)

(Total for Question 19 is 4 marks)

[Edexcel, GCSE, Autumn 2018, Paper 2F, Q19]

7

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



$10x^2 - 15x + 4x - 6$

$10x^2 - 11x - 6$

(2)

(b) Factorise $x^2 + 4x + 3$

$(x + 3)(x + 1)$

(2)

(Total for Question 26 is 4 marks)

[Edexcel, GCSE, Autumn 2018, Paper 2F, Q26]

8

(a) Expand $5(2m - 3)$

$10m - 15$

(1)

(b) Factorise $3n + 12$

$3(n + 4)$

(1)

(Total for Question 16 is 2 marks)

[Edexcel, GCSE, Summer 2019, Paper 1F, Q16]

9

(a) Expand and simplify $(x + 5)(x - 9)$

$x^2 - 9x + 5x - 45$

$x^2 - 4x - 45$

(2)

(b) Factorise fully $9x^2 + 6x$

$3x(3x + 2)$

(2)

(Total for Question 22 is 4 marks)

[Edexcel, GCSE, Autumn 2019, Paper 3F, Q22]

10

(a) Expand $x(x - 4)$

$x^2 - 4x$

(1)

(b) Factorise $15y - 10$

$5(3y - 2)$

(1)

(c) Solve $7(f - 5) = 28$

$7(f-5) = 28$

$\div 7$ ($f - 5 = 4$) $\div 7$

$+5$ ($f = 9$) $+5$

$f =$ 9

(2)

(Total for Question 19 is 4 marks)

[Edexcel, GCSE, Autumn 2020, Paper 1F, Q19]