Chhetri Academy

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GCSE MATHS

Algebra

Edexcel 1MA1 | Subtopic collection Topic 13

Factorising

Foundation tier

Past paper question booklet

37	2010-2025	Foundation
question groups	available papers	tier

Before you begin

1. Show working and use units where appropriate.
2. Use extra paper if you need more space.
3. Print at actual size (100%) for measurement questions.

Name _____ **Date** _____

Whole questions are retained for context; some parts cover other points. Legacy sources are labelled.

14 (a) Simplify $m + m + m + m + m + m$

.....

(1)

(b) Simplify $x^7 \times x^5$

.....

(1)

(c) Factorise $3y^2 + 2y$

.....

(1)

(Total for Question 14 is 3 marks)

25 (a) Expand $3(2y - 5)$

.....
(1)

(b) Factorise completely $8x^2 + 4xy$

.....
(2)

(c) Make h the subject of the formula

$$t = \frac{gh}{10}$$

$h =$ .....
(2)

(Total for Question 25 is 5 marks)

14 (a) Expand and simplify $5(x + 7) + 3(x - 2)$

.....

(2)

(b) Factorise completely $3a^2b + 6ab^2$

.....

(2)

(Total for Question 14 is 4 marks)

26 (a) Factorise $4x + 10y$

.....

(1)

(b) Factorise $x^2 + 7x$

.....

(1)

(Total for Question 26 is 2 marks)

Question 05

17 Factorise fully $7x - 28x^2y$

.....

(Total for Question 17 is 2 marks)

20 (a) Factorise $3t + 12$

.....

(1)

(b) Expand and simplify $7(2x + 1) + 6(x + 3)$

.....

(2)

(Total for Question 20 is 3 marks)

27 (a) Expand $3(x + 4)$

.....

(1)

(b) Expand $x(x^2 + 2)$

.....

(2)

(c) Factorise $x^2 - 6x$

.....

(1)

(Total for Question 27 is 4 marks)

16 (a) Expand $5(m + 2)$

.....

(1)

(b) Factorise $y^2 + 3y$

.....

(1)

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

.....

(1)

(Total for Question 16 is 3 marks)

23 (a) Solve $e + e + e + e + e = 45$

.....

(1)

(b) Solve $18 - x = 13$

.....

(1)

(c) Solve $2(y - 5) = 24$

.....

(2)

(d) Factorise $15p + 40$

.....

(1)

(Total for Question 23 is 5 marks)

23 (a) Expand $2m(m + 3)$

.....

(1)

(b) Factorise fully $3xy^2 - 6xy$

.....

(2)

(Total for Question 23 is 3 marks)

24 (a) Factorise $3e^2 + 5e$

.....

(1)

(b) Solve $7(k - 3) = 3k - 5$

$k =$ .....

(3)

(c) Make a the subject of the formula $f = \frac{a + 1}{2}$

.....

(2)

(Total for Question 24 is 6 marks)

23 (a) Factorise $3x + 6$

.....

(1)

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

.....

(2)

(Total for Question 23 is 3 marks)

23 (a) Factorise $8x + 6$

.....

(1)

(b) Factorise $y^2 - 2y$

.....

(1)

(c) Simplify fully $\dfrac{p^3 \times p^4}{p^2}$

.....

(2)

(Total for Question 23 is 4 marks)

17 (a) Factorise fully $6xy + 18xy^2$

.....

(2)

(b) Simplify $\frac{w^6}{w^3}$

.....

(1)

(c) Simplify $(a^4)^5$

.....

(1)

(Total for Question 17 is 4 marks)

20 (a) Simplify $p^2 \times p^5$

.....

(1)

(b) Expand and simplify $3(m + 4) - 2(4m + 1)$

.....

(2)

(c) Factorise $n^2 - 7n$

.....

(1)

(Total for Question 20 is 4 marks)

25 (a) Simplify fully $\frac{n^7 \times n^3}{n^6}$

.....

(2)

(b) Factorise $5y - 15$

.....

(1)

(Total for Question 25 is 3 marks)

16 (a) Expand and simplify $7a + 4(a - 2b)$

.....

(2)

(b) Simplify $n^6 \times n^5$

.....

(1)

(c) Factorise $5x + 10$

.....

(1)

(Total for Question 16 is 4 marks)

Question 18

June 2017 | 1MA1/2F | Original Q14

14 (a) Factorise $5 - 10m$

.....

(1)

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

.....

(2)

(Total for Question 14 is 3 marks)

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

.....

(2)

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

.....

(2)

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

.....

(1)

(Total for Question 24 is 5 marks)

17 (a) Factorise $4m + 12$

.....

(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 ..... in the ..... $3x + 5y$

(2)

(Total for Question 17 is 3 marks)

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

$x =$ .....

(2)

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

.....

(2)

(Total for Question 19 is 4 marks)

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

.....

(2)

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

.....

(2)

(Total for Question 26 is 4 marks)

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

.....

(1)

(b) Factorise $3n + 12$

.....

(1)

(Total for Question 16 is 2 marks)

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

.....

(2)

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

.....

(2)

(Total for Question 22 is 4 marks)

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

.....

(1)

(b) Factorise $15y - 10$

.....

(1)

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

$f =$ .....

(2)

(Total for Question 19 is 4 marks)

15 (a) Expand $2(a + d)$

.....

(1)

(b) Factorise $6y^2 - 5y$

.....

(1)

(c) Solve $4x - 7 = 37$

$x =$.....

(2)

(Total for Question 15 is 4 marks)

17 (a) Expand $y(y + 5)$

.....

(1)

(b) Factorise $4a - 6$

.....

(1)

(c) Solve $2(5x - 4) = 21$

$x =$ .....

(3)

(d) Simplify $4e^2f \times 5ef^3$

.....

(2)

(Total for Question 17 is 7 marks)

21 (a) Simplify $(x^3)^5$

.....

(1)

(b) Expand and simplify $4(x + 3) + 7(4 - 2x)$

.....

(2)

(c) Factorise fully $15x^3 + 3x^2y$

.....

(2)

(Total for Question 21 is 5 marks)

17 (a) Expand $3(4 - 2x)$

.....

(1)

(b) Solve $\frac{3y}{4} = 12$

$y =$ .....

(2)

(c) Factorise $4p + 6$

.....

(1)

(Total for Question 17 is 4 marks)

26 (a) Solve $\frac{5x}{2} + 3 > 18$

.....

(3)

(b) Factorise $x^2 + 10x + 9$

.....

(2)

(Total for Question 26 is 5 marks)

Question 31

June 2023 | 1MA1/1F | Original Q13

13 (a) Simplify $\frac{15a}{3}$

.....

(1)

(b) Simplify $19 + 5b + 4c - 7b + c$

.....

(2)

(c) Factorise $8d - 6$

.....

(1)

(Total for Question 13 is 4 marks)

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

.....

(2)

(b) Factorise $x^2 – 16$

.....

(1)

(Total for Question 27 is 3 marks)

22 (a) Expand and simplify $3(2y - 5) + 7(y + 2)$

.....

(2)

(b) Factorise fully $6x^2 + 15x$

.....

(2)

(c) Make g the subject of the formula $f = 3g + 11$

.....

(2)

(Total for Question 22 is 6 marks)

21 (a) Factorise $6x - 15$

.....

(1)

(b) Factorise $m^2 + 5m$

.....

(1)

(Total for Question 21 is 2 marks)

15 (a) Factorise $6a + 15$

.....

(1)

(b) Solve $4(3y + 1) = 28$

$y =$ .....

(3)

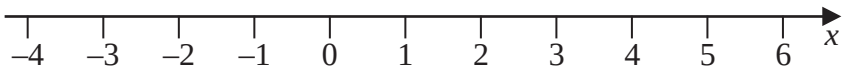
(Total for Question 15 is 4 marks)

19 (a) Factorise fully $15w^2 - 5w$

.....

(2)

(b) On the number line below, show the set of values of x for which $-2 < x \leqslant 4$



(2)

(Total for Question 19 is 4 marks)

23 Ben is trying to make m the subject of $p = \frac{m}{3} + 5$

Here is his working.

$$p - 5 = \frac{m}{3}$$

$$3 \times p - 5 = m$$

$$m = 3p - 5$$

Ben's answer is wrong.

(a) What mistake has Ben made?

.....

.....

.....

(1)

(b) Factorise fully $2x^3y + 4xy^2$

.....

(2)

(Total for Question 23 is 3 marks)