

Factorising into Single Brackets

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **34**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 (a) Factorise $3n + 12$

.....
(1)

(b) Factorise $15y - 10$

.....
(1)

(Total for Question 1 is 2 marks)

2 (a) Factorise $6a + 15$

.....
(1)

(b) Factorise $5 - 10m$

.....
(1)

(Total for Question 2 is 2 marks)

3 (a) Factorise $y^2 + 9y$

.....
(1)

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

.....
(1)

(Total for Question 3 is 2 marks)

4 Factorise fully $10x^2 + 15x$

.....
(2)

(Total for Question 4 is 2 marks)

5 Factorise fully $12w^2 - 4w$

.....
(2)

(Total for Question 5 is 2 marks)

- 6** Amir says,
‘ $12x + 18$ factorised fully is $3(4x + 6)$ ’
Amir is wrong.

(a) Explain why Amir is wrong.

(1)

(b) Factorise fully $12x + 18$

.....
(1)
(Total for Question 6 is 2 marks)

7 Factorise fully $3a^2b + 12ab^2$

.....
(2)
(Total for Question 7 is 2 marks)

- 8** (a) Write down the highest common factor of $12x^2$ and $18x$

.....
(1)

- (b) Hence, factorise fully $12x^2 + 18x$

.....
(1)
(Total for Question 8 is 2 marks)

- 9** Factorise fully $14c - 7c^2$

.....
(2)
(Total for Question 9 is 2 marks)

- 10** The area of this rectangle is $(6x^2 + 9x) \text{ cm}^2$
The width of the rectangle is $3x \text{ cm}$.

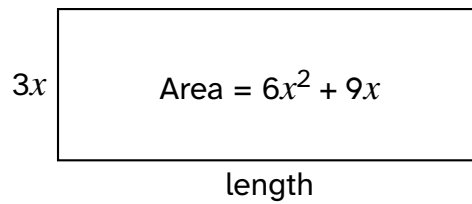


Diagram **NOT** accurately drawn

Find an expression, in terms of x , for the length of the rectangle.

..... cm
(2)

(Total for Question 10 is 2 marks)

- 11** (a) Expand and simplify $2(3x + 5) + 4(x - 1)$

.....
(2)

(b) Factorise fully your answer to part (a).

.....
(1)

(Total for Question 11 is 3 marks)

- 12 The perimeter of this square is $(12x + 20)$ cm



Diagram **NOT** accurately drawn

Find an expression, in terms of x , for the length of one side of the square.

..... cm
(2)

(Total for Question 12 is 2 marks)

- 13 n is an integer.

Show that $10n + 25$ is always a multiple of 5

(2)

(Total for Question 13 is 2 marks)

14 Factorise fully $6x^3y + 9xy^2$

.....
(2)

(Total for Question 14 is 2 marks)

15 Kasia thinks of a whole number.
She multiplies her number by 4 and then adds 9
Next she adds on 2 times the number she first thought of.
Finally she subtracts 3
Show that Kasia's final answer is always a multiple of 6

(3)

(Total for Question 15 is 3 marks)

16 Factorise fully $8x^2y - 12xy$

.....
(2)

(Total for Question 16 is 2 marks)
