2.6 Simplifying Algebra: 1-hour Pack

EDEXCEL 1MA1 · Calculator allowed · about 60 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Simplify -6k + 11k

(Total for Question 1 is 1 mark)

2 Simplify fully 6a + 3b - 2a - 5b + a

(Total for Question 2 is 2 marks)

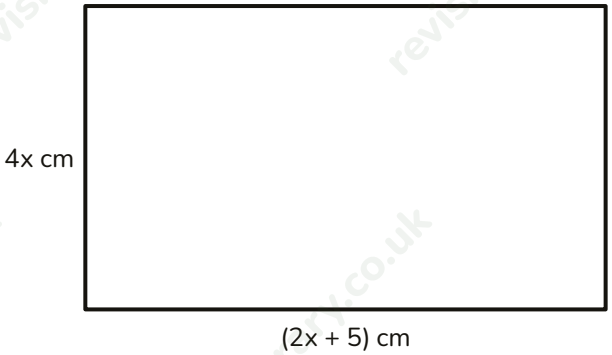
3 Simplify $5y \times 6y^3$

(Total for Question 3 is 2 marks)

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4 A rectangle has length (2x + 5) cm and width 4x cm. Write an expression, in its simplest form, for the perimeter of the rectangle.

Diagram NOT accurately drawn



(Total for Question 4 is 2 marks)

5 Expand and simplify 7(x + 6) + 2(x + 6)

(Total for Question 5 is 3 marks)

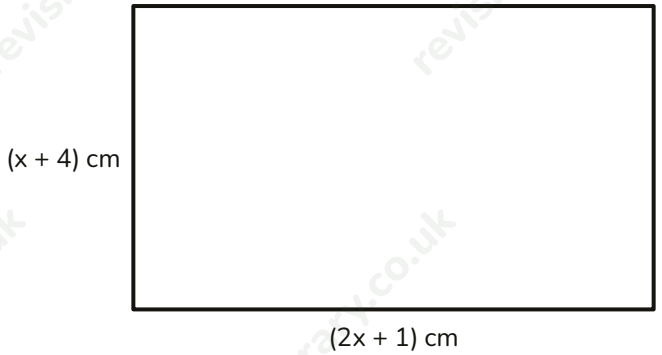
6 Simplify 5a - 5b + 6a + 2b - 6

(Total for Question 6 is 2 marks)

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7 A rectangle has length (2x + 1) cm and width (x + 4) cm. Write an expression, in its simplest form, for the perimeter of the rectangle.

Diagram NOT accurately drawn



(Total for Question 7 is 2 marks)

8 Simplify $(x^4 \times x^6) / x^4$

(Total for Question 8 is 2 marks)

9 Simplify 8a + 5b + 2b - 2

(Total for Question 9 is 2 marks)

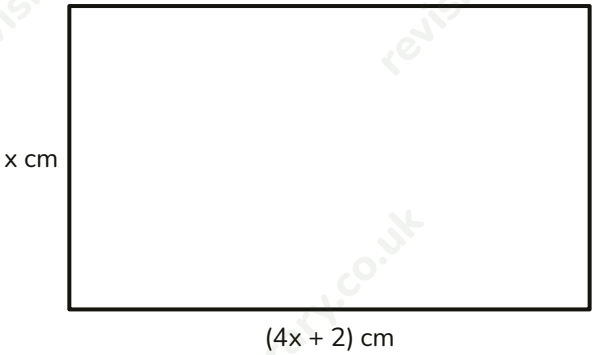
10 Simplify $4n^2 \times 7n^2$

(Total for Question 10 is 2 marks)

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11 A rectangle has length (4x + 2) cm and width x cm. Write an expression, in its simplest form, for the perimeter of the rectangle.

Diagram NOT accurately drawn



(Total for Question 11 is 2 marks)

12 Expand and simplify 2(x + 1) + 5(x - 2)

(Total for Question 12 is 3 marks)

13 Simplify 4a + 9b + 3a + 8b - 7

(Total for Question 13 is 2 marks)

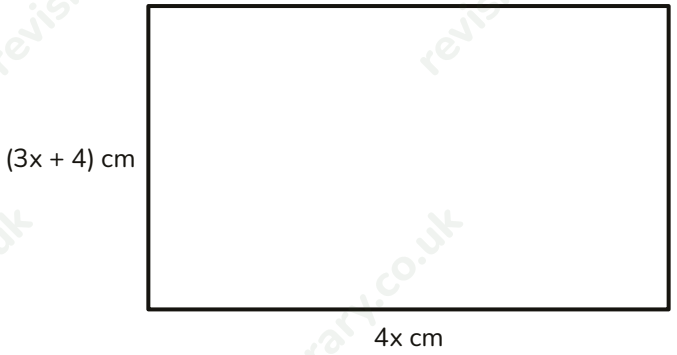
14 Simplify $(x^8 \times x^2) / x^3$

(Total for Question 14 is 2 marks)

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15 A rectangle has length 4x cm and width (3x + 4) cm. Write an expression, in its simplest form, for the perimeter of the rectangle.

Diagram NOT accurately drawn



(Total for Question 15 is 2 marks)

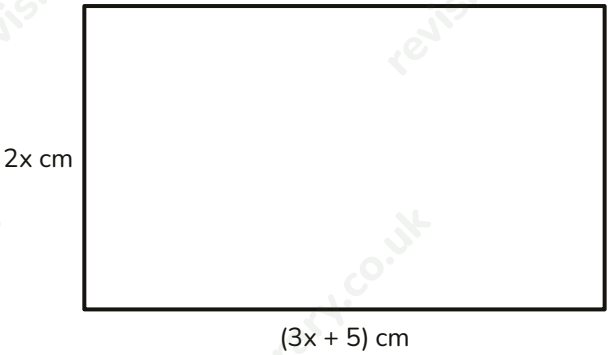
16 Simplify $4x^2 \times 8x^2$

(Total for Question 16 is 2 marks)

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17 A rectangle has length (3x + 5) cm and width 2x cm. Write an expression, in its simplest form, for the perimeter of the rectangle.

Diagram NOT accurately drawn



(Total for Question 17 is 2 marks)

18 Expand and simplify 5(x + 2) + 3(x - 5)

(Total for Question 18 is 3 marks)

19 Simplify $(x^9 \times x^3) / x^2$

(Total for Question 19 is 2 marks)

20 Expand -3(2x - 5)

(Total for Question 20 is 2 marks)

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21 Show that $2(3x + 5) - 4 = 6x + 6$

(Total for Question 21 is 2 marks)

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22 Expand and simplify $4(2x + 3) - 9$.

(Total for Question 22 is 2 marks)

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Mark scheme · 2.6 Simplifying Algebra: 1-hour Pack

A correct answer earns full marks unless the question asks for working, a method, proof or explanation.

Question 1

5k cao **B1**

Answer: 5k

Question 2

5a or -2b seen (one pair of like terms correctly collected) **M1**

5a - 2b oe cao **A1**

Answer: 5a - 2b

Question 3

30 or y^4 seen **M1**

$30y^4$ cao **A1**

Answer: $30y^4$

Question 4

adds the length and width and doubles, or adds all four sides **M1**

(12x + 10) cm cao **A1**

Answer: (12x + 10) cm

Question 5

expands one bracket correctly **M1**

expands both brackets correctly **M1**

9x + 54 cao **A1**

Answer: 9x + 54

Question 6

collects at least two like terms correctly **M1**

11a - 3b - 6 cao **A1**

Answer: 11a - 3b - 6

Question 7

adds the length and width and doubles, or adds all four sides **M1**

(6x + 10) cm cao **A1**

Answer: (6x + 10) cm

Question 8

x^{10} or x^0 seen **M1**

x^6 cao **A1**

Answer: x^6

Question 9

collects at least two like terms correctly **M1**

8a + 7b - 2 cao **A1**

Answer: 8a + 7b - 2

Question 10

28 or n^4 seen **M1**

$28n^4$ cao **A1**

Answer: $28n^4$

Question 11

adds the length and width and doubles, or adds all four sides **M1**

(10x + 4) cm cao **A1**

Answer: (10x + 4) cm

Question 12

expands one bracket correctly **M1**

expands both brackets correctly **M1**

7x - 8 cao **A1**

Answer: 7x - 8

Question 13

collects at least two like terms correctly **M1**

7a + 17b - 7 cao **A1**

Answer: 7a + 17b - 7

Question 14

x^{10} or x^5 seen **M1**

x^7 cao **A1**

Answer: x^7

Question 15

adds the length and width and doubles, or adds all four sides **M1**

(14x + 8) cm cao **A1**

Answer: (14x + 8) cm

Question 16

32 or x^4 seen **M1**

$32x^4$ cao **A1**

Answer: $32x^4$

Question 17

adds the length and width and doubles, or adds all four sides **M1**

(10x + 10) cm cao **A1**

Answer: (10x + 10) cm

Question 18

expands one bracket correctly **M1**

expands both brackets correctly **M1**

8x - 5 cao **A1**

Answer: 8x - 5

Question 19

x^{12} or x^7 seen **M1**

x^{10} cao **A1**

Answer: x^{10}

Question 20

-6x or +15 seen (one term correctly multiplied out, including its sign) **M1**

-6x + 15 oe cao **A1**

Answer: -6x + 15

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Question 21

6x + 10 seen (bracket expanded correctly)	**M1**
6x + 10 - 4 = 6x + 6 shown correctly, cso	**A1**

Answer: 6x + 6 (shown)

Question 22

correct expansion 8x + 12 shown	**M1**
8x + 3 cao	**A1**

Answer: 8x + 3 (cao)

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