

## Collecting like terms

1. Simplify  $x + x + x + x$

$$4x$$

(1 mark)

2. Simplify  $4x + 3x - x$

$$6x$$

(1 mark)

3. Simplify  $5y + 3y - 6y$

$$2y$$

(1 mark)

4. Simplify  $6xy - 3xy + 9xy$

$$12xy$$

(1 mark)

5. Simplify  $12m + 5m - 3m + 5$ .

$$14m + 5$$

(1 mark)

## Collecting like terms

6. Simplify  $4x + 8y + 6x + 2y$

$$10x + 10y$$

(2 marks)

7. Simplify  $6m + 4n - 2m + n$

$$4m + 5n$$

(2 marks)

8. Simplify  $6a + 3b - 2a - 5b$

$$4a - 2b$$

(2 marks)

9. Simplify  $7h - 12 + 4h - 3$

$$11h - 15$$

(2 marks)

## Collecting like terms

10. Simplify  $5x^2 + 4x - 2x^2 - 6x$

$$3x^2 - 2x$$

(2 marks)

11. Simplify  $2k^2 - 3k - k^2 + 7k - 13$

$$k^2 + 4k - 13$$

(2 marks)

12. Simplify  $8x + 9y - 1 - 4x - 13y + 6$

$$4x - 4y + 5$$

(2 marks)

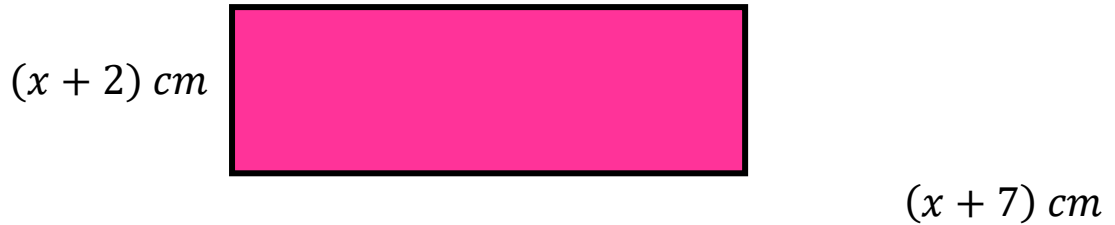
13. Simplify  $7x^2 - 3y^2 - 4x^2 - 9x^2$

$$-6x^2 - 3y^2$$

(2 marks)

## Collecting like terms

14. A rectangle is shown below.  
Find an expression for the perimeter of the rectangle.

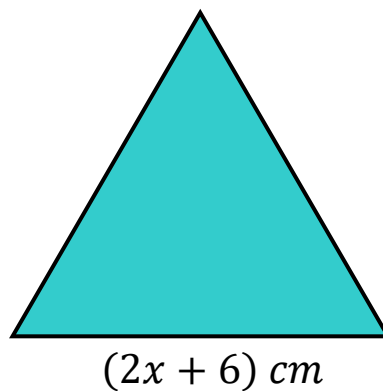


$$x + 2 + x + 7 + x + 2 + x + 7$$

$$4x + 18$$

(3 marks)

15. An equilateral triangle is shown below.  
Find an expression for the perimeter of the triangle.



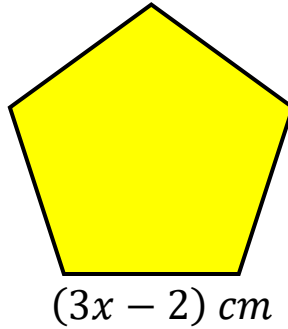
$$2x + 6 + 2x + 6 + 2x + 6$$

$$6x + 18$$

## Collecting like terms

(3 marks)

16. Below is a regular pentagon.  
Find an expression for the perimeter of the pentagon.  
Give your answer in its simplest form.

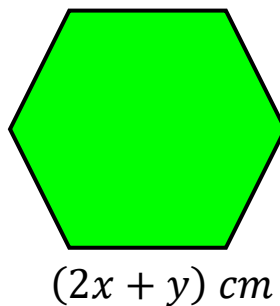


$$3x - 2 + 3x - 2 + 3x - 2 + 3x - 2 + 3x - 2$$

$$15x - 10$$

(3 marks)

17. Below is a regular hexagon.  
Find an expression for the perimeter of the hexagon.  
Give your answer in its simplest form.



$$2x + y + 2x + y + 2x + y + 2x + y + 2x + y + 2x + y$$

$$12x + 6y$$

## Collecting like terms

(3 marks)

18. Leonard has £ $x$ , Molly has £20 less than Leonard.  
Adele has £55 more than Molly.  
Write an expression for the total amount of money they have.  
Give your answer in its simplest form.

Leonard:  $x$

Molly:  $x - 20$

Adele:  $x - 20 + 55 = x + 35$

$$x + x - 20 + x + 35$$

$$3x + 15$$

(4 marks)

19. Lisa is  $y$  years old. Debra is 13 years older than Lisa.  
Robert is 5 years younger than Lisa. Alex is twice as old as Debra.  
Write an expression for their total age.  
Give your answer in its simplest form.

Lisa:  $y$

Debra:  $y + 13$

Robert:  $y - 5$

Alex:  $2(y + 13)$

$$y + y + 13 + y - 5 + 2y + 26$$

$$5y + 34$$

## Collecting like terms

(4 marks)