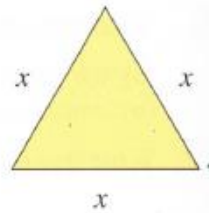


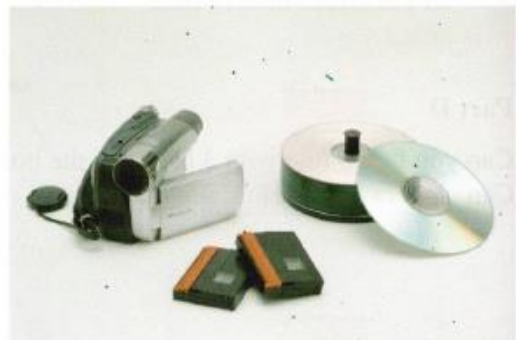
Exercise A

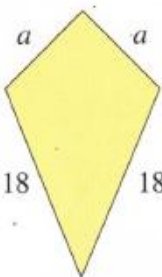
- 1 The perimeter p of this triangle is given by the formula $p = 3x$
Find p when $x = 6$.



- 2 The perimeter p of a four-sided shape (quadrilateral) is given by the formula $p = 4w + 17$.
Find p when $w = 5$.
- 3 The cost in pounds, C , for hiring a car is given by the formula $C = 2n + 25$ where n is the number of miles travelled.
Find C when $n = 150$.

- 4 The cost in pounds, C , for hiring a video camera is given by the formula $C = 4d + 15$ where d is the number of days of hire. Find C when $d = 8$.
- 5 The perimeter p of a rectangle with sides x and y is given by the formula $p = 2(x + y)$.
Find p when $x = 8$ and $y = 6$.
- 6 The area A of a shape is given by the formula $A = bh + 16$. Find A when $b = 7$ and $h = 6$.



- 7  A formula for the perimeter p of this kite is given by the formula
 $p = 2a + 36$
Find p when (a) $a = 7$ (b) $a = 43$ (c) $a = 3.5$

- 8 A formula to work out the speed v of an object is $v = u + at$.
Find v when $u = 5$, $a = 10$ and $t = 7$.

Exercise B

A formula is given in each question. Find the value of the letter required in each case.

1 $a = 3b + 5$
Find a , when $b = 4$

2 $p = 4n - 9$
Find p , when $n = 6$

3 $h = 18 - 2g$
Find h , when $g = 6$

4 $w = 4(p + 5)$
Find w , when $p = 3$

5 $p = 7(q - 4)$
Find p , when $q = 8$

6 $y = \frac{m}{4}$
Find y , when $m = 36$

7 $a = \frac{b}{3} + 16$

Find a , when $b = 21$

9 $y = ab - 8$

Find y , when $a = 8, b = 3$

11 $f = gh + h$

Find f , when $g = 5, h = 9$

13 $c = 3fg$

Find c , when $f = 2, g = 9$

15 $h = 3w + yw$

Find h , when $w = 4, y = 6$

17 $n = \frac{x}{y} + x$

Find n , when $x = 12, y = 4$

19 $w = \frac{x^2 - x}{2}$

Find w , when $x = 5$

8 $c = \frac{d}{8} + 7$

Find c , when $d = 56$

10 $x = m(9 - n)$

Find x , when $m = 10, n = 4$

12 $k = a(a + b)$

Find k , when $a = 8, b = 2$

14 $y = a^2 - b^2$

Find y , when $a = 8, b = 3$

16 $a = \frac{3b + 2}{4}$

Find a , when $b = 6$

18 $r = \frac{5s}{t}$

Find r , when $s = 8, t = 10$

20 $y = mn + m^2$

Find y , when $m = 9, n = 3$

Expressions

An expression is something that is made of numbers, letters and mathematical operations such as, +, -, \times , \div , $\sqrt{\quad}$ and so on. There will be no equal sign in an expression.

Examples:

- $2x + 3y$
- $5x^3 - 3x + 10$
- $\frac{x-1}{\sqrt{x+2}}$
- $(3x - 1)(2x + 5)$

Exercise C

It is given that, $a = 3, b = 2, x = 5$ and $y = 4$.

Evaluate the following expressions.

1. $4x + 3x - 5x + 6x$
2. $6y + 3y - 2y$
3. $4a + 3b - 2a + 7b$
4. $5a + 4b - 3a - 2b$

5. $8x - 6y - 10x + 2y$

6. $10x + 3y - 8x - 7y - 5x$

7. $\frac{3x+2y}{5x}$

8. $\frac{5b^2-5b}{a+b}$

Exercise D

Simplify where possible.

1. $4x + 3x - 5x + 6x$

2. $6y + 3y - 2y$

3. $4a + 3b - 2a + 7b$

4. $5a + 4b - 3a - 2b$

5. $8x - 6y - 10x + 2y$

6. $10x + 3y - 8x - 7y - 5x$

7. $5a - 4b + 6b - 8a + 6a + 2b$

8. $7a - 3a + 4b - 6a - 6b + 10$

9. $20 - 4x + 3y - 7x - 8y$

10. $6m + 3p - 4r - 5p - 2m - 3r$

11. $-6x + 8y - 3x - 19y$

12. $6y + 5x$

13. $3x - 2y$

14. $-8a + 5 - 3b + 8$

15. $-5x - 8y + 5 - 3x - 11$

16. $8x - 4a$