

1 Expression, equation or formula?

a) Name each one. $3(m + 4)$, $5y - 7 = 18$, $s = \frac{d}{t}$, $2x + 1 \geq 9$

b) Solve the one that is an equation.

a) expression, equation, formula, inequality

b) $5y = 25$, $y = 5$

2 Solving two step equations

Solve

a) $7 - 3x = 19$

b) $9 = \frac{5 - 2x}{3}$

a) $-3x = 12$, $x = -4$

b) $27 = 5 - 2x$, $x = -11$

3 Two step equations: forming

The angles in a triangle are x° , $(2x + 15)^\circ$ and $(3x - 21)^\circ$.

a) Form an equation and solve it to find x .

b) Find the largest angle.

a) $6x - 6 = 180$, $x = 31$

b) 31, 77, 72: largest 77°

4 Equations with brackets

Solve

a) $6(3 - 2x) = 42$

b) $5(2x + 1) - 3(x - 4) = 45$

a) $3 - 2x = 7$, $x = -2$

b) $7x + 17 = 45$, $x = 4$

Linear equations revision mat answers

Higher A

5 Equations: the unknown on both sides

Solve

a) $7x - 4 = 3x + 18$

b) $\frac{x+4}{3} = \frac{2x-1}{5}$

a) $4x = 22$, $x = 5.5$

b) $5(x + 4) = 3(2x - 1)$

$5x + 20 = 6x - 3$, $x = 23$

6 Unknown on both sides: forming

Gym A costs £25 a month plus £4 a visit. Gym B costs £9 a visit.

a) How many visits in a month cost the same at both gyms?

b) Ella goes 8 times a month. Which gym is cheaper for her, and by how much?

a) $25 + 4v = 9v$, $v = 5$

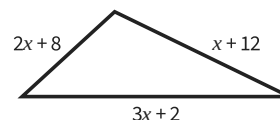
b) A £57, B £72: A by £15

7 Forming equations: perimeter

The perimeter of this triangle is 58 cm. Lengths are in cm.

a) Find x .

b) What type of triangle is it? Show how you know.



Not drawn to scale

a) $6x + 22 = 58$, $x = 6$

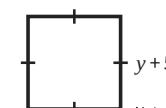
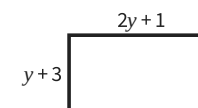
b) 18, 20, 20: isosceles

8 Forming equations: equal perimeters

The rectangle and the square have the same perimeter. Lengths are in cm.

a) Find y .

b) Find the area of the square.



Not drawn to scale

a) $6y + 8 = 4y + 20$, $y = 6$

b) $11 \times 11 = 121 \text{ cm}^2$