

1 Substitution

$x = 4$ and $y = -5$. Work out the value of

- a) $2x^2 + y$
b) $\frac{x-y}{3}$

a) $2 \times 16 + (-5) = 27$
b) $(4 - (-5)) \div 3 = 9 \div 3 = 3$

2 Substitution: formulae in words

Cost of a party in £ = $12 \times \text{number of guests} + 80$

- a) Work out the cost of a party for 25 guests.
b) A party costs £524. How many guests are there?

a) $12 \times 25 + 80 = \text{£}380$
b) $(524 - 80) \div 12 = 37 \text{ guests}$

3 Substitution: using a formula

The formula $F = 1.8C + 32$ changes a temperature, C °C, to F °F.

- a) Find F when $C = 25$.
b) Find C when $F = 50$.

a) $1.8 \times 25 + 32 = 77$
b) $50 = 1.8C + 32, 18 = 1.8C$
 $C = 10$

4 Rearranging formulae

- a) Make m the subject of $k = m - 9$
b) Make u the subject of $v = u + at$

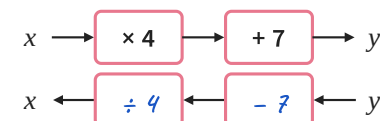
a) $m = k + 9$
b) $u = v - at$

Formulae revision mat answers

Foundation A

5 Rearranging: two steps

- a) Use the machines to make x the subject of $y = 4x + 7$
b) Make w the subject of $P = 2l + 2w$

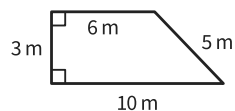


a) $x = \frac{y-7}{4}$
b) $P - 2l = 2w, w = \frac{P-2l}{2}$

6 Formulae sheet: find it and use it

Use your formulae sheet. This floor is a trapezium.

- a) Find its area.
b) A tin of varnish covers 5 m^2 . How many tins are needed?



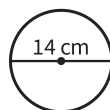
Not drawn accurately

a) $(6 + 10) \div 2 \times 3 = 24 \text{ m}^2$
b) $24 \div 5 = 4.8$, so 5 tins

7 Formulae sheet: read the letters

Use your formulae sheet. Give each answer to 1 decimal place.

- a) Find the area of the circle.
b) Find the circumference of the circle.

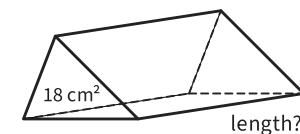


a) $r = 7, \pi \times 7^2 = 153.9 \text{ cm}^2$
b) $\pi \times 14 = 44.0 \text{ cm}$

8 Formulae sheet: turn it round

Use your formulae sheet.

- a) This prism has a volume of 252 cm^3 . Find its length.
b) A circle has a circumference of 50 cm. Find its diameter to 1 decimal place.



a) $252 = 18 \times l, l = 14 \text{ cm}$
b) $50 = \pi d, d = 50 \div \pi = 15.9 \text{ cm}$