



REARRANGING FORMULAE

TWO-STEP PROBLEMS

Ref: G241.**251**a

B1 Make x the subject of $b = \frac{x}{m} + n$ B2 Make x the subject of $p = qx - r$ B3 Make x the subject of $e = \frac{x + y}{4}$ B4 Make x the subject of $e = \frac{x + y}{4}$ C1 Make x the subject of $x = mx + wz$ C2 Make x the subject of $x = mx + wz$ C3 Make x the subject of $x = mx + wz$ C4 Make $x = x + mx + wz$ C5 Make $x = x + mx + wz$ C6 Make $x = x + mx + wz$ C7 Make $x = x + mx + wz$ C8 Make $x = x + mx + wz$ C9 Make $x = x + mx + wz$ C9 Make $x = x + mx + wz$ C9 Make $x = x + mx + wz$ C1 Make $x = x + wz$ C2 Make $x = x + wz$ C3 Make $x = x + wz$ C4 Make $x = x + wz$ C5 Make $x = x + wz$ C6 Make $x = x + wz$ C7 Make $x = x + wz$ C9 Make $x = x + wz$ C9 Make $x = x + wz$ C9 Make $x = x + wz$ C1 Make $x = x + wz$ C2 Make $x = x + wz$ C3 Make $x = x + wz$ C4 Make $x = x + wz$ C6 Make $x = x + wz$ C7 Make $x = x + wz$ C9 Make $x = x + wz$ C1 Make $x = x + wz$ C2 Make $x = x + wz$ C3 Make $x = x + wz$ C6 Make $x = x + wz$ C9 Make $x = x + wz$ C1 Make $x = x + wz$ C1 Make $x = x + wz$ C2 Make $x = x + wz$ C3 Make $x = x + wz$ C4 Make $x = x + wz$ C6 Make $x = x + wz$ C9 Make $x = x + wz$ C9 Make $x = x + wz$ C1 Make $x = x + wz$ C1 Make $x = x + wz$ C2 Make $x = x + wz$ C3 Make $x = x + wz$ C4 Make $x = x + wz$ C6 Make $x = x + wz$ C9 Make $x = x + wz$ C1 Make $x = x + wz$ C2 Make $x = x + wz$ C3 Make $x = x + wz$ C4 Make $x = x + wz$ C6 Make $x = x + wz$ C9 Make $x = x + wz$ C9 Make $x = x + wz$ C1 Make $x = x + wz$ C1 Make $x = x + wz$ C1 Make $x = x + wz$ C2 Make $x = x + wz$ C3 Make $x = x + wz$ C4 Make $x = x + wz$ C6 Make $x = x + wz$ C9 Make $x = x + wz$ C1 Mak				
$b = \frac{x}{m} + n$ $e = \frac{x + y}{4}$ $m = a(x - y)$ C1 Make x the subject of $s = mx + wz$ $q = \frac{x + mn}{k}$ C2 Make x the subject of $m = a(x - y)$ $m = a(x - y)$ $m = a(x - y)$ C3 Make x the subject of $m = \frac{x - 3gh}{5a}$ $m = \frac{x - 3gh}{5a}$ D1 Make x the subject of $m = x^2 + 7$ $m = a(x - y)$ $m = $	·		17.4	A4 Make x the subject of $y = a + \frac{x}{9}$
$s = mx + wz$ $q = \frac{x + mn}{k}$ $M = \frac{x}{2a} - p$ $w = \frac{x - 3gh}{5a}$ D1 Make x the subject of $a = x^2 + 7$ $D2 Make x the subject of$ $w = \sqrt{x} - a$ $D3 Make x the subject of$ $g = 5x^2$ $Z = \sqrt{x + 4}$ E1 The formula $v = u + at$ can is used to $v^2 = u^2 + 2as$ The formula $V = \pi r^2 h$ The formula $V = \pi r^2 h$				B4 Make x the subject of $m = a(x - y)$
$a = x^{2} + 7$ $w = \sqrt{x} - a$ $g = 5x^{2}$ $Z = \sqrt{x} + 4$ E1 The formula $v = u + at$ can is used to The area of a circle can be found $v^{2} = u^{2} + 2as$ The formula $V = \pi r^{2}h$		2		C4 Make x the subject of $w = \frac{x - 3gh}{5a}$
The formula $v = u + at$ can is used to The area of a circle can be found $v^2 = u^2 + 2as$ The formula $V = \pi r^2 h$		SEC. 1		D4 Make x the subject of $Z = \sqrt{x+4}$
Make t the subject of the formula. Make r the subject of the formula. Make r the subject of the subject	The formula $v = u + at$ can is used to find the velocity of objects.	The area of a circle can be found using the formula $A = \pi r^2$.	• • • • • • • • • • • • • • • • • • • •	E4 The formula $V = \pi r^2 h$ can be used to find the volume of a cylinder. Make r the subject of the formula.

REARRANGING FORMULAE

TWO-STEP PROBLEMS

Ref: G241.2S1a

4 4	1 (1	.1	1	C
AI	Make x	the	subject	of

$$y = ax + 3$$

$$y = ax + 3$$
 $ax = y - 3$

$$x = \frac{y - 3}{a}$$

$$y = \frac{x}{a} + 1$$

$$y = \frac{x}{a} + 1$$
 $\frac{x}{a} = y - 1$ $y = \frac{ax}{2}$ $ax = 2y$

$$x = a(y - 1)$$

$$y = \frac{ax}{2}$$

$$ax = 2y$$

$$x = \frac{2y}{a}$$

$$y = a + \frac{x}{9} \qquad \qquad \frac{x}{9} = y - a$$

$$x = 9(y - a)$$

$$b = \frac{x}{m} + n$$

$$b = \frac{x}{m} + n$$
 $\frac{x}{m} = b - n$

$$x = m(b - n)$$

$$p = qx - r$$

$$qx = p + r$$

$$X = \frac{p + r}{q}$$

$$e = \frac{x + y}{4} \qquad \qquad x + y = 4e$$

$$x + y = 4e$$

$$x = 4e - y$$

$$m = a(x - y)$$

$$x - y = \frac{m}{a}$$

$$x = 4e - y \qquad \qquad x = \frac{m}{a} \qquad \qquad x = \frac{m}{a} + y$$

$$s = mx + wz$$

$$mx = s - wz$$

$$X = \frac{s - wz}{m}$$

$$q = \frac{x + m}{k}$$

$$x + mn = kc$$

$$x + mn = kq$$
 $x = kq - mn$

$$M = \frac{x}{2a} - p \qquad \frac{x}{2a} = M + p \qquad \qquad w = \frac{x - 3gh}{5a}$$

$$x = 2a(M + p)$$
 $x - 3gh = 5aw$ $x = 5aw + 3gh$

$$w = \frac{x - 3gh}{5a}$$

$$x - 3gh = 5aw$$

$$x = 5aw + 3gh$$

$$a = x^2 + 7$$

$$x^2 = a - 7$$

$$x = \sqrt{\alpha - 7}$$

$$w = \sqrt{x} - a$$

$$a = x^2 + 7$$
 $x^2 = a - 7$ $w = \sqrt{x} - a$ $\sqrt{x} = w + a$

$$X = (W + a)^2$$

$$g = 5x^2$$

$$x^2 = \frac{g}{5}$$

$$X = \sqrt{\frac{g}{5}}$$

$$Z = \sqrt{x+4} \qquad \qquad x+4 = Z^2$$

$$X + 4 = Z^2$$

$$X = Z^2 - 4$$

E1

The formula v = u + at can is used to find the velocity of objects.

Make t the subject

$$t = \frac{V - u}{a}$$

The area of a circle can be found using the formula $A = \pi r^2$ Make r the subject

$$r = \sqrt{\frac{A}{\pi}}$$

$$v^2 = u^2 + 2as$$

$$a = \frac{V^2 - u^2}{2s}$$

The formula $V = \pi r^2 h$ can be used to find the volume of a cylinder.

Make *r* the subject

$$r = \sqrt{\frac{V}{\pi h}}$$