

1. Make w the subject of the formula $4(g - w) = 5w - 3$

$$4g - 4w = 5w - 3$$

$$4g + 3 = 5w + 4w$$

$$4g + 3 = 9w$$

$$\frac{4g + 3}{9} = w$$

$$w = \frac{4g + 3}{9} \dots\dots\dots (3)$$

2. $4(2a + p) = c + p + a$
Express a in terms of c and p .

$$8a + 4p = c + p + a$$

$$8a - a = c + p - 4p$$

$$7a = c - 3p$$

$$a = \frac{c - 3p}{7}$$

$$a = \frac{c - 3p}{7} \dots\dots\dots (3)$$

3. Make a the subject of $14a + 6w = ac + 8w$

$$14a - ac = 8w - 6w$$

$$a(14 - c) = 2w$$

$$a = \frac{2w}{14 - c}$$

$$a = \frac{2w}{14 - c} \dots\dots\dots (3)$$

4. Make x the subject of

$$y = \frac{x + 3}{x - 8}$$

$$y(x - 8) = x + 3$$

$$yx - 8y = x + 3$$

$$yx - x = 3 + 8y$$

$$x(y - 1) = 3 + 8y$$

$$x = \frac{3 + 8y}{y - 1}$$

$$x = \frac{3 + 8y}{y - 1} \dots\dots\dots (4)$$

5. Rearrange $y + 3 = x(y + 2)$ to make y the subject of the formula.

$$y + 3 = xy + 2x$$

$$y - xy = 2x - 3$$

$$y(1-x) = 2x - 3$$

$$y = \frac{2x - 3}{1 - x}$$

$$y = \frac{2x - 3}{1 - x} \dots\dots\dots (4)$$

6. Make a the subject of the formula.

$$\frac{1}{a} - \frac{1}{b} = \frac{1}{c}$$

$$\frac{abc}{a} - \frac{abc}{b} = \frac{abc}{c}$$

$$bc - ac = ab$$

$$bc = ab + ac$$

$$bc = a(b+c)$$

$$\frac{bc}{b+c} = a$$

$$a = \frac{bc}{b+c} \dots\dots\dots (3)$$

7. Make a the subject of the formula

$$s = ut + \frac{1}{2} at^2$$

$$s - ut = \frac{1}{2} at^2$$

$$2(s - ut) = at^2$$

$$\frac{2(s - ut)}{t^2} = a$$

or
$$\frac{2s - 2ut}{t^2}$$

$$a = \frac{2(s - ut)}{t^2} \dots \dots \dots (3)$$

8. Make w the subject of the formula

$$g = \frac{w}{w - 5}$$

$$g(w - 5) = w$$

$$gw - 5g = w$$

$$gw - w = 5g$$

$$w(g - 1) = 5g$$

$$w = \frac{5g}{g - 1}$$

or
$$\frac{-5g}{1 - g}$$

$$w = \frac{5g}{g - 1} \dots \dots \dots (3)$$

9. Make y the subject of the formula $c = w - 4ay^3$

$$4ay^3 = w - c$$

$$y^3 = \frac{w - c}{4a}$$

$$y = \sqrt[3]{\frac{w - c}{4a}}$$

$$\sqrt[3]{\frac{w - c}{4a}}$$

$y = \dots\dots\dots$
(3)

10. Make x the subject of the formula

$$P = 4x + \frac{\pi x}{5}$$

$$5p = 20x + \pi x$$

$$5p = x(20 + \pi)$$

$$\frac{5p}{20 + \pi} = x$$

$x = \frac{5p}{20 + \pi} \dots\dots\dots$
(3)

11. Make v the subject of the formula.

$$s = \frac{1}{2}(u + v)t$$

$$2s = (u + v)t$$

$$2s = ut + vt$$

$$2s - ut = vt$$

$$\frac{2s - ut}{t} = v$$

$$v = \frac{2s - ut}{t} \quad (3)$$

12. Make p the subject of the formula $p - 2 = \pi(y - 3p)$

$$p - 2 = \pi y - 3\pi p$$

$$p + 3\pi p = \pi y + 2$$

$$p(1 + 3\pi) = \pi y + 2$$

$$p = \frac{\pi y + 2}{1 + 3\pi}$$

$$p = \frac{\pi y + 2}{1 + 3\pi} \quad (4)$$