GCSE HIGHER · REVISION MAT 1

Using and rearranging formulae

1 $v = u + at$

Find v when $u = 5$, $a = 3$ and $t = 4$.

2 Make x the subject of

$$y = 3x - 7$$

3 Jo rearranges $A = \pi r^2$ to get

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

Explain her mistake.

4 $F = \frac{9C}{5} + 32$ converts °C to °F.

(a) Find C when F = 77.

(b) At what temperature are F and C equal?

5 Show that making a the subject of

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

gives $a = \frac{v^2 - u^2}{2s}$.

6 $V = \pi r^2 h$ gives the volume of a cylinder.

A cylinder has volume 500 cm³ and height 8 cm.

Find its radius to 1 d.p.

7 Make x the subject of

$$ax + b = cx + d$$

8 Make y the subject of

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

Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Using and rearranging formulae

1 $v = 5 + 12$

$\boldsymbol{v = 17}$

2 $y + 7 = 3x$

$\boldsymbol{x = \frac{y + 7}{3}}$

3 She has not square-rooted.

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

4 (a) $45 = \frac{9C}{5} \Rightarrow 1C = 25$

(b) $C = \frac{9C}{5} + 32$

$-\frac{4C}{5} = 32$

$-40°$

5 $v^2 - u^2 = 2as$

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

6 $r = \sqrt{\frac{V}{\pi h}} = \sqrt{\frac{500}{8\pi}}$

$= \sqrt{19.89...}$

$\boldsymbol{r = 4.5\text{ cm}}$

7 $ax - cx = d - b$

$x(a - c) = d - b$

$\boldsymbol{x = \frac{d - b}{a - c}}$

8 $xy - 3x = 2y + 1$

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

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

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