GCSE HIGHER · REVISION MAT 4

Using and rearranging formulae

1 Work out $y = mx + c$ when $m = -2$, $x = 5$ and $c = 3$.

2 Make u the subject of

$$v = u + at$$

3 Show that when $a = 3$ and $b = -2$,

$$a^2 - b^2 = 5$$

4 Use $d = st$.

A car travels 150 km in 1 hour 15 minutes.

Find its average speed.

5 Show that making x the subject of

$$y = 4 - \frac{x^2}{3} \text{ (with } x > 0)$$

gives $x = \sqrt{3(4 - y)}$.

6 The volume of a pyramid is

$$V = \frac{1}{3}Ah$$

A pyramid has a square base of side 6 cm and volume 96 cm^3.

Find its height.

7 Make p the subject of

$$\frac{p}{q} + \frac{p}{r} = 1$$

8 Make t the subject of

$$y = \frac{3t + 2}{t - 4}$$

Hence find t when $y = 5$.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Using and rearranging formulae

1 $-10 + 3$

$y = -7$

2 $u = v - at$

3 $9 - 4$

$= 5$

4 $t = 1.25$ hours

$s = \frac{150}{1.25}$

120 km/h

5 $\frac{x^2}{3} = 4 - y$

$x^2 = 3(4 - y)$

$x = \sqrt{3(4 - y)}$

6 $A = 36$

$96 = 12h$

$h = 8$ cm

7 $pr + pq = qr$

$p(r + q) = qr$

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

8 $yt - 4y = 3t + 2$

$t(y - 3) = 4y + 2$

$t = \frac{4y + 2}{y - 3}$

$t = 11$