GCSE HIGHER · MIXED REVISION MAT 9

Mixed topics

1 Expand and simplify

$$(3x - 2)(x + 4)$$

2 Find 7.5% of £640.

3 Show that

$$3^4 \times 9^{-1} = 9$$

4 A pool is 10 m by 4 m and 1.2 m deep.

It fills at 0.5 m^3 per minute.

How long does it take to fill?

5 A class $5 < x \leq 15$ has frequency 30.

Show that its frequency density is 3.

6 P(pass theory test) = 0.8 and P(pass practical) = 0.7, independently.

Find P(passes exactly one).

7 Show that a hemisphere of radius 6 cm has volume 144π cm^3.

8 Solve, giving your answers to 2 d.p.

$$\frac{4}{x+2} + \frac{1}{x} = 1$$

Mr&Mrs MATHS

ANSWERS · MIXED REVISION MAT 9

Mixed topics

1 $3x^2 + 10x - 8$

2 ~~£48~~

3 $81 \div 9$

$= 9$

4 48 m^3

96 minutes

5 $30 \div 10 = 3$

6 $0.8 \times 0.3 + 0.2 \times 0.7$

0.38

7 $\frac{1}{2} \times \frac{4}{3} \pi \times 216$

$= 144\pi$

8 $4x + x + 2 = x^2 + 2x$

$x^2 - 3x - 2 = 0$

$x = 3.56$ or $x = -0.56$

Mr&Mrs MATHS