GCSE HIGHER · MIXED REVISION MAT 10

Mixed topics

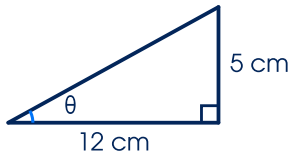
1 Find the mode and the median of

5, 8, 8, 3, 9, 8, 6

2 Simplify

$\sqrt{45} + \sqrt{20}$

3 Show that θ = 22.6°, to 1 d.p.



4 200 cm³ of metal A (9 g/cm³) is mixed with 300 cm³ of metal B (4 g/cm³).

Find the density of the mixture.

5 The angles in a triangle are $2x°$, $(3x + 10)°$ and $(x + 20)°$.

Show that $x = 25$.

6 $a : b = 3 : 4$ and $b : c = 2 : 5$.

$a + b + c = 85$.

Find c.

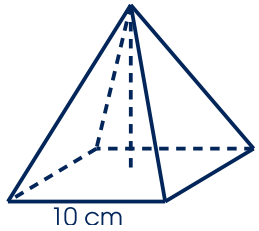
7 A bag has 2 red and 3 blue balls.

Two are taken with replacement.

Show that P(same colour) = $\frac{13}{25}$.

8 A square-based pyramid has base 10 cm.

Each triangular face has a slant height of 13 cm.



Find the volume of the pyramid.

ANSWERS · MIXED REVISION MAT 10

Mixed topics

1 3, 5, 6, 8, 8, 8, 9

Mode 8, median 8

2 $3\sqrt{5} + 2\sqrt{5}$

$5\sqrt{5}$

3 $\tan\theta = \frac{5}{12}$

$\theta = 22.6°$

4 Mass 1800 + 1200 = 3000 g

6 g/cm³

5 $6x + 30 = 180$

$x = 25$

6 $a : b : c = 3 : 4 : 10$

17 parts = 85

$c = 50$

7 $\frac{4}{25} + \frac{9}{25}$

$= \frac{13}{25}$

8 Vertical height $\sqrt{169 - 25} = 12$ cm

$\frac{1}{3} \times 100 \times 12 = 400$ cm³