GCSE HIGHER · MIXED REVISION MAT 8

Mixed topics

1 A spinner lands on red with probability 0.3.

It is spun twice.

Find P(both red).

2 Convert 72 km/h to m/s.

3 A cone has radius 6 cm and height 8 cm.

Show that its curved surface area is 60π cm^2.

4 Estimate the mean mark.

Mark, m	Frequency
$0 < m \leq 20$	3
$20 < m \leq 40$	9
$40 < m \leq 60$	12
$60 < m \leq 80$	6

5 Twice a number plus 3 equals the number plus 10.

Show that the number is 7.

6 A square has a diagonal of $6\sqrt{2}$ cm.

Find its side length and area.

7 Show that $x^2 < 9$ means $-3 < x < 3$.

8 From the top of a 30 m tower, the angles of depression of two boats in line are 35° and 20°.



Find the distance between the boats.

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1 **0.09**

2 $72\,000 \div 3600$

20 m/s

3 Slant $\sqrt{36 + 64} = 10$

$\pi \times 6 \times 10 = 60\pi$

4 Midpoints 10, 30, 50, 70

$$\frac{30 + 270 + 600 + 420}{30}$$

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5 $2n + 3 = n + 10$

***n* = 7**

6 $2s^2 = 72$

Side 6 cm, area 36 cm²

7 $x^2 - 9 < 0 \Rightarrow (x - 3)(x + 3) < 0$

Between the roots: $-3 < x < 3$

8 $\frac{30}{\tan 20°} - \frac{30}{\tan 35°}$

$82.4 - 42.8$

39.6 m