Sine, cosine and tangent

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Opposite $=6$, adjacent $=8$, hypotenuse $=10$. Find $\sin\theta$. [2 marks]

$\sin\theta = \frac{6}{10} = \frac{3}{5}$.

Answer: $\frac{3}{5} = 0.6$

2. Using opposite $=6$, adjacent $=8$, hypotenuse $=10$, find $\cos\theta$. [2 marks]

$\cos\theta = \frac{8}{10} = \frac{4}{5}$.

Answer: $\frac{4}{5} = 0.8$

3. Using opposite $=6$, adjacent $=8$, hypotenuse $=10$, find $\tan\theta$. [2 marks]

$\tan\theta = \frac{6}{8} = \frac{3}{4}$.

Answer: $\frac{3}{4} = 0.75$

4. Evaluate $\tan 32.5^\circ$ to four decimal places. [2 marks]

Select degree mode.

$\tan 32.5^\circ \approx 0.6371$.

Answer: 0.6371

5. Evaluate $\cos 60^\circ$. [2 marks]

$\cos 60^\circ = 0.5$.

Answer: 0.5

6. A student gives $\sin\theta = 1.4$ for an acute angle. Explain why this cannot be right. [3 marks]

The $\frac{\text{opposite}}{\text{hypotenuse}}$ ratio must be less than 1.

Answer: The opposite side cannot exceed the hypotenuse.