

Name _____

No Cell Phones or I pods

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Find the exact value of the expression. *Show Work No calculator*

1) $\cos^{-1}\left(-\frac{\sqrt{3}}{2}\right)$

1) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

The displacement d (in meters) of an object at time t (in seconds) is given. Describe the motion of the object. What is the maximum displacement from its resting position, the time required for one oscillation, and the frequency?

2) $d = 3 \cos(5t)$

2) _____

- A) simple harmonic; 3 m; 5π sec; $\frac{5}{\pi}$ oscillations/sec
- B) simple harmonic; 3 m; $\frac{2}{5}\pi$ sec; $\frac{5}{2\pi}$ oscillations/sec
- C) simple harmonic; -3 m; $\frac{2}{5}\pi$ sec; $\frac{5}{2\pi}$ oscillations/sec
- D) simple harmonic; 3 m; $\frac{5}{2\pi}$ sec; $\frac{2}{5}\pi$ oscillations/sec

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

Solve the equation on the interval $0 \leq \theta < 2\pi$. *Show Work No calculator*

3) $4 \sin^2 \theta - 3 = 0$

3) _____

X

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4) $2 \sin^2 \theta - 3 \sin \theta - 2 = 0$

Show work No Calculator

4) _____

Establish the identity.

show work

5) $\frac{\tan u - 1}{\tan u + 1} = \frac{1 - \cot u}{1 + \cot u}$

5) _____

A

Find the exact value of the expression. Show work No calculator

6) $\cos \frac{5\pi}{12}$

6) _____

Use the information given about the angle θ , $0 \leq \theta \leq 2\pi$, to find the exact value of the indicated trigonometric function.

7) $\cos \theta = \frac{3}{5}$, $\frac{3\pi}{2} < \theta < 2\pi$ Find $\sin(2\theta)$. - Show work no calculator _____

Solve the problem.

- 8) A building 200 feet tall casts a 90 foot long shadow. If a person looks down from the top of the building, what is the measure of the angle between the end of the shadow and the vertical side of the building (to the nearest degree)? (Assume the person's eyes are level with the top of the building.) Show work 8) _____

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✓ Solve the triangle. Show work

9) $A = 40^\circ, B = 50^\circ, a = 1$

9) _____

10) $a = 6, b = 13, c = 15$ Show work

10) _____