

PMATH 12 - CHAPTER 6 - PRETEST

signature _____

Multiple Choice - NON-CALCULATOR - 15 MINUTES (#1-6)

CIRCLE the choice that best completes the statement or answers the question.

1. What is the measure of the reference angle for an angle of -546° in standard position?

- A.
- 6°
- B.
- -6°
- C.
- -186°
- D.
- 84°

2. What is the length of the arc that subtends a central angle of 80° in the unit circle?

- A.
- $\frac{2}{9}\pi$
- units B.
- $\frac{9}{4}\pi$
- units C.
- 40π
- units D.
- $\frac{4}{9}\pi$
- units

3. What is -120° in radians?

- A.
- $-\frac{2}{3}\pi$
- radians B.
- $-\frac{21600}{\pi}$
- radians C.
- -120π
- radians D.
- $-\frac{2}{3}$
- radians

4. What is $\frac{3}{4}\pi$ radians in degrees? Give the answer to the nearest degree.

- A.
- 424°
- B.
- 135°
- C.
- 43°
- D.
- 2°

5. What is the amplitude of the function $y = 7 \sin x$?

- A.
- -7
- B.
- 7
- C.
- 14
- D.
- 7π

6. What is the period of the function $y = 7 \cos 9\left(x + \frac{\pi}{7}\right) + 2$?

- A.
- $\frac{2\pi}{9}$
- B.
- $\frac{\pi}{7}$
- C.
- 7π
- D.
- $\frac{9\pi}{2}$

MULTIPLE CHOICE - CALCULATOR may be used after 15 minutes

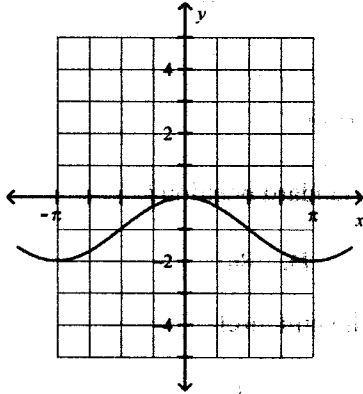
7. What is the value of $\sin(-256^\circ)$ to the nearest thousandth?

- A. 0.970 B. -0.242 C. -0.970 D. 1.031

8. Graph $y = \sin x$ using graphing technology.Which of these values is NOT an x -intercept of $y = \sin x$?

- A.
- -5π
- B.
- 3π
- C.
- $\frac{5\pi}{6}$
- D.
- 8π

9. Which function below describes this graph?



- A. $y = 2 \cos x$ B. $y = \cos x$ C. $y = \cos x - 1$ D. $y = \cos x - 2$

10. Identify the transformations that would be applied to the graph of $y = \cos x$ to get the graph of

$$y = 7 \cos\left(x - \frac{\pi}{2}\right)$$

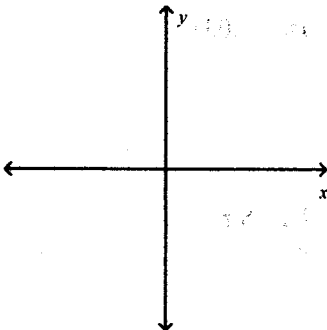
- A. A vertical stretch by a factor of 7, and then a translation of $\frac{\pi}{2}$ units left
 B. A vertical stretch by a factor of $\frac{\pi}{2}$, and then a translation of 7 units right
 C. A vertical stretch by a factor of 7, and then a translation of $\frac{\pi}{2}$ units right
 D. A horizontal stretch by a factor of 7, and then a translation of $\frac{\pi}{2}$ units right

11. What is the period of the function $y = 5 \sin \frac{3\pi}{5}(x + 1) + 8$?

- A. $\frac{13}{3}$ B. $\frac{3}{10}$ C. $\frac{10}{3}$ D. 2

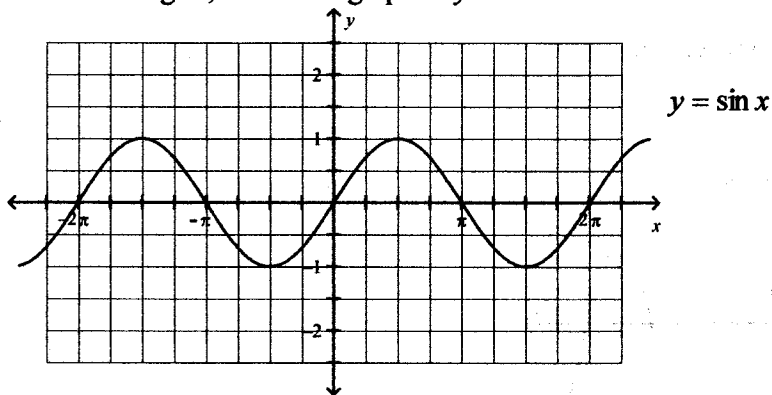
Short Answer - Show your work

1. Sketch the angle -380° in standard position, then identify the reference angle.



2. Determine the exact value of $\sin 135^\circ$.
3. For the point $P(-4, -8)$ on the terminal arm of an angle θ in standard position, determine the exact value of $\cot \theta$.

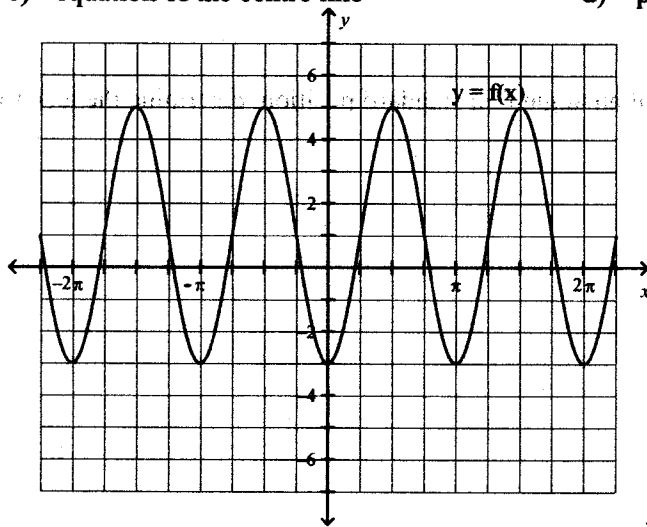
4. The graph of $y = \sin x$ is shown below.
On the same grid, sketch the graph of $y = \sin 2x$.



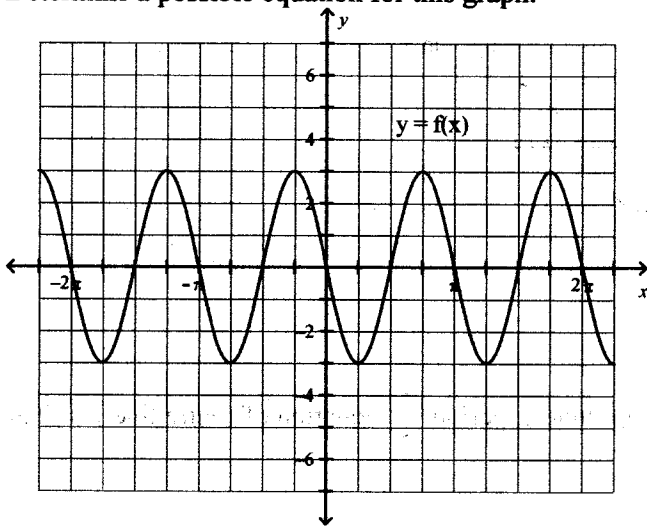
5. Write an equation for a sine function with amplitude 2, period $\frac{\pi}{3}$, equation of centre line $y = 5$, and phase shift $-\frac{\pi}{8}$.

6. Identify the following characteristics of the graph of the sine function shown below.

- a) amplitude
- b) period
- c) equation of the centre line
- d) phase shift



7. Determine a possible equation for this graph.



Problem - Show your work

1. $P(60, -11)$ is a terminal point of angle θ in standard position.
Determine the exact values of the six trigonometric ratios for θ .

2. Given $\cot \theta = -\sqrt{3}$, determine all possible measures of angle θ in the domain $-2\pi \leq \theta \leq 2\pi$.

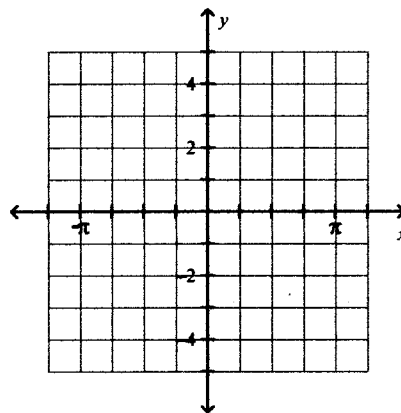
3. Graph $y = \sin(4x)$.
Identify the:

amplitude

period

domain

range



4. Write an equation in the form $y = a \cos b(x - c) + d$ for the graph below.

