

Pre-Calculus
More SLO Review

Name _____
Date _____ Period _____

1. Evaluate: $\sec \frac{11\pi}{3}$

A. $\frac{2\sqrt{3}}{3}$

B. 2

C. $-\frac{2\sqrt{3}}{3}$

D. $-\sqrt{2}$

2. Which of the following angles is coterminal to $\theta = \frac{5\pi}{13} \pm \frac{26\pi}{13}$

A. $-\frac{8\pi}{13}$

B. $\frac{21\pi}{13}$

C. $\frac{31\pi}{13}$

D. Both B and C

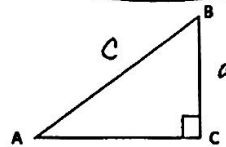
3. Given the triangle, what is represented by the ratio of $\frac{a}{c}$?

A. $\cos A$

B. $\cos B$

C. $\tan A$

D. $\sec B$



4. Determine the period of the function: $f(x) = 3\tan 7x$

A. $\frac{\pi}{3}$

B. $\frac{\pi}{7}$

C. $\frac{2\pi}{7}$

D. 6π

5. Determine the quadrant in which θ lies if $\sin\theta > 0$ and $\tan\theta < 0$

A. I

B. II

C. III

D. IV

S	A
T	C

6. Convert to degrees: $\theta = \frac{3\pi}{5}$

A. $.0329^\circ$

B. 108°

C. 216°

D. 54°

7. Find the reference angle for $\theta = \frac{9\pi}{13}$

A. $-\frac{5\pi}{26}$

B. $\frac{\pi}{13}$

C. $-\frac{4\pi}{13}$

D. $\frac{17\pi}{13}$

8. Evaluate $\cos^{-1}(\tan \pi)$

A. does not exist

B. 0

C. -1

D. $\frac{\pi}{2}$

E. π

9. Evaluate $\cos(\arcsin \frac{1}{3})$

A. $\frac{2\sqrt{2}}{3}$

B. $-\frac{2\sqrt{2}}{3}$

C. $\frac{1}{3}$

D. $-\frac{1}{3}$

E. None of these

10. Solve. $\sqrt{2}\cos x - 1 = 0$.

$\cos x = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

A. $\frac{\pi}{4}; \frac{3\pi}{4}$

B. $\frac{\pi}{3}; \frac{2\pi}{3}$

C. $\frac{\pi}{4}; \frac{7\pi}{4}$

D. $\frac{\pi}{3}; \frac{5\pi}{3}$

11. Simplify: $\tan(\arctan \frac{5}{13})$

A. $\frac{5}{13}$

B. $\frac{5}{12}$

C. $\frac{12}{5}$

D. $\frac{12}{13}$

E. $\frac{13}{5}$

12. Find all solutions in the interval $(0, 2\pi)$: $3 \tan x - 3 = 0$.

$\tan x = \frac{3}{3}$

$\tan x = 1$

A. $0, \pi$

B. $\frac{\pi}{2}, \frac{3\pi}{2}$

C. $\frac{3\pi}{4}, \frac{7\pi}{4}$

D. $\frac{\pi}{4}, \frac{5\pi}{4}$

E. None of these

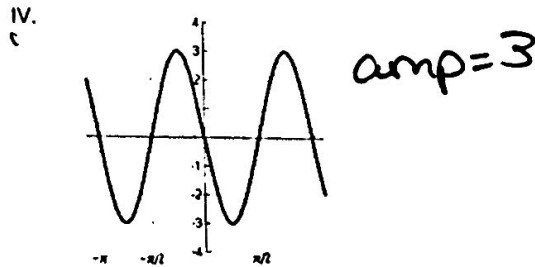
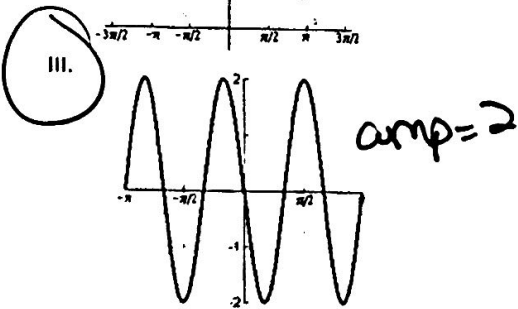
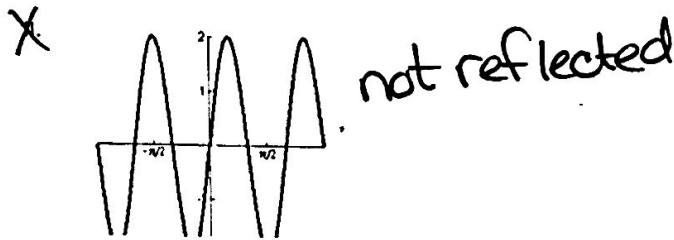
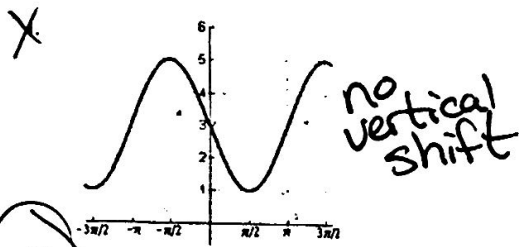
13. Sketch the graph: $f(x) = -2\sin 3x$

A. I

B. II

C. III

D. IV



14. Given $y = \arcsin x$, state the domain in interval notation.

↳ to find inverse of sine, you look in QI + QII so $(-\frac{\pi}{2}, \frac{\pi}{2})$

A. $(0, \pi)$

B. $(-\frac{\pi}{2}, \frac{\pi}{2})$

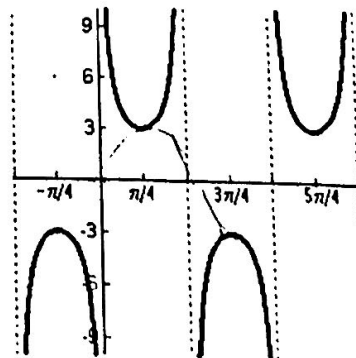
C. $(-1, 1)$

D. $(0, 2\pi)$

E. None of these

15. Match the correct function with the given graph:

- A. $f(x) = 3\csc 2x$
- B. $f(x) = 3\sec 2x$
- C. $f(x) = -3\sec 2x$
- D. $f(x) = -3\csc 2x$

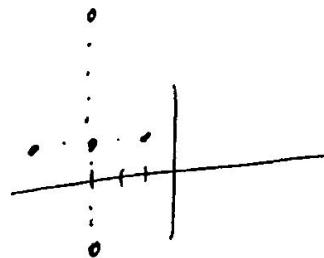


16. Which of the following pairs of vectors is orthogonal?

- A. $v = 3i - 2j$ and $v = -2i - 3j$ $-6 + 6$
- B. $v = 2i - 2j$ and $v = -3i - 3j$
- C. $v = 2i + 4j$ and $v = -2i - 4j$
- D. $v = 4i + 3j$ and $v = 3i + 4j$

17. Find the length of the major axis of the ellipse. $\frac{(x+3)^2}{4} + \frac{(y-1)^2}{25} = 1$

- A. 10
- B. 4
- C. 5
- D. 2



18. Identify the shape of the conic equation $3x^2 - 5 = 4y^2$

- A. circle
- B. ellipse
- C. parabola
- D. hyperbola

19. Find the coordinates of the foci of this ellipse. $\frac{x^2}{16} + \frac{(y+2)^2}{100} = 1$

- A. $(0, -2 \pm 2\sqrt{21})$
- B. $(\pm 2\sqrt{21}, -2)$
- C. $(0, -2 \pm 2\sqrt{29})$
- D. $(\pm 2\sqrt{29}, -2)$

$(0, -2)$

$\frac{100}{16}$
 $\sqrt{84}$
 $4 \cdot 21$

$2\sqrt{21}$

20. By what matrix would you multiply both sides of the equation to solve the following matrix system?

$$\begin{bmatrix} 3 & 1 \\ 2 & 2 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 4 \\ 2 \end{bmatrix}$$

A. $\begin{bmatrix} \frac{1}{2} & -\frac{1}{4} \\ -\frac{1}{2} & \frac{3}{4} \end{bmatrix}$

B. $\begin{bmatrix} \frac{1}{2} & \frac{1}{4} \\ \frac{1}{2} & \frac{3}{4} \end{bmatrix}$

C. $\begin{bmatrix} \frac{1}{4} & -\frac{1}{8} \\ -\frac{1}{4} & \frac{3}{8} \end{bmatrix}$

D. $\begin{bmatrix} \frac{3}{4} & \frac{1}{4} \\ \frac{1}{2} & \frac{1}{2} \end{bmatrix}$

$6 - 2 = 4$

$$\frac{1}{4} \begin{bmatrix} 2 & -1 \\ -2 & 3 \end{bmatrix} = \begin{bmatrix} \frac{1}{2} & -\frac{1}{4} \\ -\frac{1}{2} & \frac{3}{4} \end{bmatrix} \begin{bmatrix} 4 \\ 2 \end{bmatrix}$$

$= 2 - \frac{1}{2}$