1. Which of the following angles is coterminal to $\theta = -\frac{20\pi}{12}$?

2. Find the reference angle for $\theta = \frac{21\pi}{5}$?

3. Convert to radians: 325°.

4. Give the exact value of $\tan\frac{13\pi}{3}$.

5. A right triangle has an acute angle θ such that $\sin\theta = \frac{3}{5}$. Find $\tan\theta$.

6. Determine the quadrant in which the terminal side of the angle $-\frac{11\pi}{9}$ lies.

7. Find the two values of θ $(0 \le \theta < 360°)$ that satisfy $\sec\theta = -1.5557$.

8. Determine the period: $f(x) = -\frac{2}{5}\sin\left[\frac{x}{4} - \frac{1}{2}\right] + 1$.

9. Describe the shifts in the graph of g with respect to the graph of f.
$$g(x) = -4\cos\left[3x + \frac{\pi}{2}\right] \text{ and } f(x) = \cos(3x)$$

10. Evaluate: $\arcsin\left[-\frac{\sqrt{3}}{2}\right]$.

11. The pilot of an airplane flying at an altitude of 2000 feet sights two ships traveling in the same direction as the plane. The angle of depression of the farther ship is 30° and the angle of depression of the other ship is 48°. Find the distance between the two ships.

12. Determine the order of the matrix: $\begin{bmatrix} 1 & 2 & 3 \\ -5 & -8 & 2 \end{bmatrix}$.

13. Evaluate: $3\begin{bmatrix} 2 & 7 \\ 3 & 0 \end{bmatrix} - 2\begin{bmatrix} 1 & 4 \\ -1 & 5 \end{bmatrix}$

14. If $A = \begin{bmatrix} 2 & -1 \\ 3 & 0 \end{bmatrix}$ and $B = \begin{bmatrix} -5 & 0 \\ -1 & -1 \end{bmatrix}$, find $2B - A$.

15. Use a graphing utility to multiply: $\begin{bmatrix} 4 & 7 & -3 \\ -1 & 0 & 2 \end{bmatrix}\begin{bmatrix} -1 & 4 \\ 0 & 1 \\ -6 & 2 \end{bmatrix}$

16. Use matrix multiplication to determine which of the following is the inverse of $A = \begin{bmatrix} 4 & 1 \\ -2 & 0 \end{bmatrix}$.

17. Use a determinant to find the area of a triangle with the vertices $(3, -1), (4, 2),$ and $(-2, 0)$.

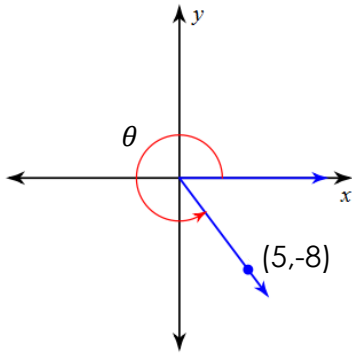18. Find the vertex of the parabola: $(x - 5)^2 - 7(y + 8) = 0$

19. Find the equation of the parabola with vertex at $(3, 2)$ and focus at $(3, 12)$.

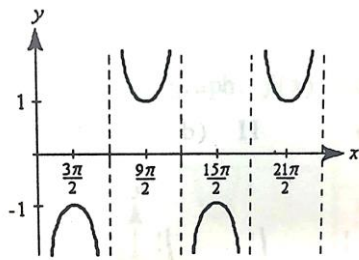20. Find the center of the ellipse: $x^2 + 2y^2 - 12x - 20y + 22 = 0$

21. Find the standard form of the equation of the ellipse with the foci $(-\sqrt{13}, 6)$ and $(\sqrt{13}, 6)$ and a vertex $(5, 6)$.

22. Classify the graph of $3x^2 + 4y^2 + 5x - 6 = 0$.

23. Find $\tan \theta$, for the angle θ shown below.

(5,-8)

24. Write the equation of the graph.

25. Identify the graph of $\frac{(y+1)^2}{2} - \frac{(x-3)^2}{9} = 1$.

   a.   I
   b.   II
   c.   III
   d.   IV
   e.   None of these

I	II	III	IV