1. Use a calculator to evaluate the expression to the nearest tenth of a degree, if necessary.

\[
\cos^{-1}(0.2291) \\
\]  

_______ °

2. Use a calculator to evaluate the expression to the nearest tenth of a degree, if necessary.

\[
\sin^{-1}(-0.3296) \\
\]  

_______ °

3. Use your graphing calculator to graph \( y = \sin^{-1}x \) in degree mode. Use the graph with the appropriate command to evaluate the expression.

\[
\sin^{-1}\left(\frac{1}{\sqrt{2}}\right) \\
\]  

_______ °

4. Evaluate without using a calculator.

\[
\cot\left(\tan^{-1}\frac{1}{3}\right) \\
\]  

_______ °

5. Find the equation of the line. Write your answer in slope-intercept form, \( y = mx + b \).
6. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.

7. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.
8. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.

9. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.
10. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.

11. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.
12. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.

13. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.
14. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.

![Graph of a trigonometric function](image1)

15. The graph below is one complete cycle of the graph of an equation containing a trigonometric function. Find an equation to match the graph. If you are using a graphing calculator, graph your equation to verify that it is correct.

![Graph of a trigonometric function](image2)

16. The diameter of a Ferris wheel is 163 feet, it rotates at 0.05 revolutions per minute, and the bottom of the wheel is 9 feet above the ground. Find an expression that gives a passenger's height above the ground at any time $t$ (in minutes) during the ride. Assume the passenger starts the ride at the bottom of the wheel.
17. Evaluate the expression without using a calculator, and write your answer in radians.

\[ \arcsin \left( -\frac{1}{2} \right) \]

18. Evaluate the expression without using a calculator, and write your answer in radians.

\[ \sin^{-1}(-1) \]

19. Simplify \( 2|\cos \theta| \) if \( \theta = \sin^{-1} \frac{x}{2} \) for some real number \( x \).

20. Evaluate without using a calculator.

\[ \cos^{-1}(\cos 150^\circ) \]

21. Evaluate without using a calculator.

\[ \tan^{-1} \left( \tan \frac{3\pi}{4} \right) \]

22. Evaluate without using a calculator.

\[ \sec \left( \tan^{-1} \frac{3}{4} \right) \]
23. Evaluate without using a calculator.

\[ \sec \left( \cos^{-1} \frac{1}{\sqrt{6}} \right) \]

24. Simplify \( \sin^{-1}(\sin x) \) if \( 0 \leq x \leq \frac{\pi}{2} \).

25. Simplify \( \cos^{-1}(\cos x) \) if \( \pi \leq x \leq 2\pi \).
Answer Section

NUMERIC RESPONSE

1. 76.8
2. -19.2
3. 45
4. 3

SHORT ANSWER

5. $y = -\frac{3}{5} \cdot x + 2$
6. $y = 4\cos(x)$
7. $y = -5\cos(x)$
8. $y = \sin(8x)$
9. $y = 5\sin\left(\frac{1}{7}x\right)$
10. $y = 1\cos\left(\frac{1}{2}x\right)$
11. $y = 8\sin(\pi x)$
12. $y = 2 - \cos(\pi x)$
13. $y = -2 + 2\cos\left(2x + \frac{\pi}{2}\right)$
14. $y = -3 + 3\sin\left(3x - \frac{\pi}{2}\right)$
15. $y = 2 - 2\sin\left(2x - \frac{\pi}{2}\right)$
16. $90.5 - 81.5\cos(0.1\pi)$
17. $-\frac{\pi}{6}$
18. $-\frac{\pi}{2}$
19. $\sqrt{4 - x^2}$
20. 150
21. $-\frac{\pi}{4}$
22. $\frac{5}{4}$
23. $\sqrt{6}$
24. $x$
25. $2\pi - x$