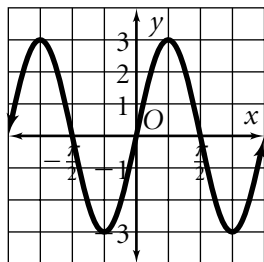


Chapter Practice

Chapter 13

For Exercises 1–8, choose the correct letter.

1. Which of the following is the period and amplitude of this function?



- A period = π , amplitude = 3
 B period = 2, amplitude = 3
 C period = 3, amplitude = π
 D period = $\frac{3}{2}\pi$, amplitude = $\sin \theta$
 E none of the above
2. Which of the following are the coordinates of the point where an angle of 1.05 radians intersects the unit circle?
 A (1, 1) B (0.87, -0.87)
 C (0.87, 0.5) D (0.5, -0.87)
 E (0.5, 0.87)
3. Which of the following statements about the functions $y = \sin \theta$ and $y = \cos \theta$ is false?
 A The graphs have the same amplitude.
 B The graphs have the same period.
 C The graphs have the same maximum value.
 D The graphs have the same minimum value.
 E The graphs cross the horizontal axis at the same values of θ .

4. In a right triangle, $\tan \theta = 1$. θ is an acute angle. Which of the following is true?
 A The triangle has only 1 side.
 B The triangle has a hypotenuse of length 1.
 C The hypotenuse and the side adjacent to θ are equal in length.
 D All three angles have the same measure.
 E none of the above
5. What is $\frac{\cotangent x}{\operatorname{cosecant} x}$ equal to?
 A $\sin x$ B $\cosine x$
 C $\tan x$ D $\secant x$
6. What is the amplitude of $y = -3 \cos \frac{\pi x}{4}$?
 A 3 B -3
 C $\frac{1}{4}$ D $\frac{\pi}{2}$
7. Which of the following is equivalent to $\frac{3\pi}{4}$ radians?
 A 0.75° B 135°
 C 270° D 175°
8. Which of the following pairs of angles are coterminal?
 A 100° and 260° B -30° and 150°
 C 0° and 180° D none of these

For Exercises 9–12, compare the values in Column A with the values in Column B. Choose the best answer.

- A The value in Column A is greater.
- B The value in Column B is greater.
- C The two values are equal.
- D The relationship cannot be determined on the basis of the information supplied.

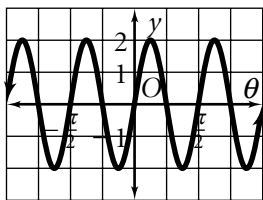
Column A

Column B

9.	amplitude of a function	period of a function
10.	$\frac{3\pi}{7}$ radians	67°
11.	period of $y = 4 \sin 5\theta$	period of $y = 5 \sin 4\theta$
12.	amplitude of $y = -4 \cos 2\theta$	amplitude of $y = 4 \cos 2\theta$

For Exercises 13–21, write your answer.

- 13. Draw a diagram to illustrate an angle of 30° in standard position.
- 14. Write the equation of this sine function.



- 15. Sketch the graph of $y = -\tan \frac{\theta}{2}$.
- 16. **Open-ended** Write two angles that are coterminal.

- 17. Give the coordinate pairs for 3 unique points on the unit circle.
- 18. A periodic function has a maximum value of 24 and a minimum value of -12 . What is the amplitude of the function?
- 19. Find the length of an arc intercepted by an angle of 150° given that $r = 2.5$ units. Round your answer to the nearest tenth.
- 20. Evaluate $\csc 30^\circ + \sec 60^\circ$.
- 21. Write $\frac{5\pi}{3}$ radians in degrees.