UNIT 8 • TRIGONOMETRY

Activity 8.2: Graphs of Trig Functions & Trig Equations

A

Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question. Solve equations on $[0, 2\pi)$. Problem 4 uses a graph. Graphs are drawn accurately.
Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Find the amplitude of $y = 3\sin(2x)$.

Answer: _____ Match? ☐ Yes ☐ No

2

Find the period of $y = \sin(2x)$.

Answer: _____ Match? ☐ Yes ☐ No

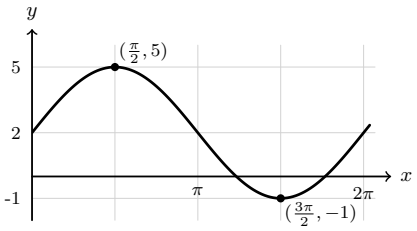
3

Find the midline of $y = 2\sin x + 4$.

Answer: _____ Match? ☐ Yes ☐ No

4

Write the sinusoid shown in the form $y = a\sin x + d$.



Answer: _____ Match? ☐ Yes ☐ No

5

Solve $\sin x = \dfrac{1}{2}$.

Answer: _____ Match? ☐ Yes ☐ No

6

Solve $2\cos x + 1 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

7

Simplify $\sin^2 x + \cos^2 x$.

Answer: _____ Match? ☐ Yes ☐ No

8

A Ferris wheel has diameter 40 ft and its center is 25 ft above the ground. How high is the highest point?

Answer: _____ Match? ☐ Yes ☐ No

Activity 8.2: Graphs of Trig Functions & Trig Equations

B

Name: _____ Partner's name: _____ Date: _____

Directions: Answer each question. Solve equations on $[0, 2\pi)$. Problem 4 uses a graph. Graphs are drawn accurately.
Work alone, then compare after each problem. If answers differ, find the mistake together.

1

Find the amplitude of $y = -3\cos x$.

Answer: _____ Match? ☐ Yes ☐ No

2

Find the period of $y = 5\cos(2x - 1)$.

Answer: _____ Match? ☐ Yes ☐ No

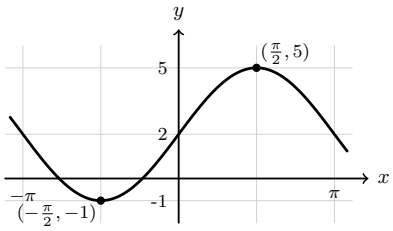
3

Find the midline of $y = -\cos x + 4$.

Answer: _____ Match? ☐ Yes ☐ No

4

Write the sinusoid shown in the form $y = a\sin x + d$.



Answer: _____ Match? ☐ Yes ☐ No

5

Solve $2\sin x - 1 = 0$.

Answer: _____ Match? ☐ Yes ☐ No

6

Solve $4\cos x = -2$.

Answer: _____ Match? ☐ Yes ☐ No

7

Simplify $5(\sin^2 x + \cos^2 x) - 4$.

Answer: _____ Match? ☐ Yes ☐ No

8

A Ferris wheel has radius 20 ft and its lowest point is 5 ft above the ground. How high is the highest point?

Answer: _____ Match? ☐ Yes ☐ No