

**GUIDED PRACTICE** for Examples 4, 5, and 6

Graph the function.

4. $y = -\cos\left(x + \frac{\pi}{2}\right)$

5. $y = -3 \sin \frac{1}{2}x + 2$

6. $f(x) = -\tan 2x - 1$

7. **WHAT IF?** In Example 6, how does the model change if you are standing 150 feet from a building that is 400 feet tall?

14.2 EXERCISES**HOMEWORK KEY**

= **WORKED-OUT SOLUTIONS**
on p. WS1 for Exs. 11, 23, and 53

= **TAKS PRACTICE AND REASONING**
Exs. 21, 35, 48, 54, 56, and 57

SKILL PRACTICE

1. **VOCABULARY** Copy and complete: The graph of $y = \cos 2(x - 3)$ is the graph of $y = \cos 2x$ translated ? units to the right.
2. **WRITING** Describe the difference between the graphs of $y = \tan x$ and $y = -\tan x$. How are the graphs related?

MATCHING Match the function with its graph.

3. $y = \sin 2\left(x + \frac{\pi}{2}\right)$

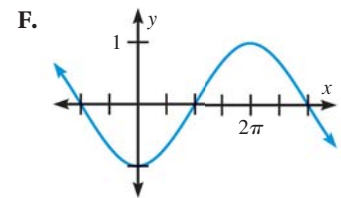
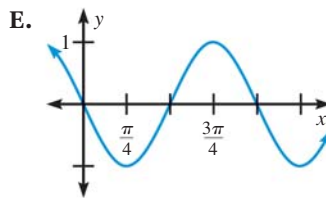
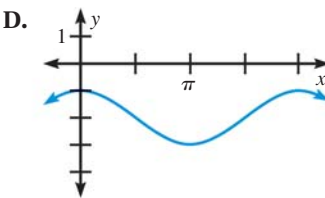
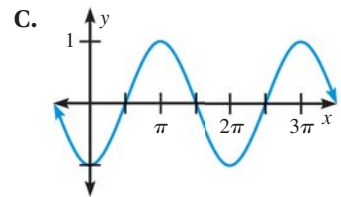
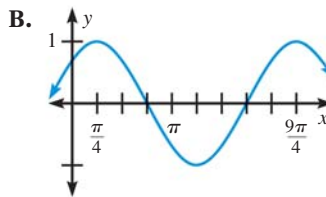
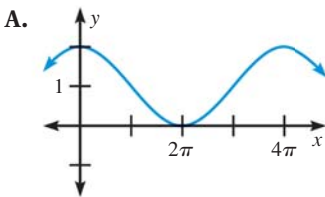
4. $f(x) = \cos(x + \pi)$

5. $y = \cos x - 2$

6. $y = \sin\left(x + \frac{\pi}{4}\right)$

7. $y = \cos \frac{1}{2}x + 1$

8. $f(x) = \sin \frac{1}{2}(x - \pi)$

**GRAPHING** Graph the sine or cosine function.

9. $y = \sin x + 3$

10. $y = \cos x - 5$

11. $y = 2 \cos x + 1$

12. $y = \sin 3x - 4$

13. $f(x) = \sin\left(x + \frac{\pi}{4}\right)$

14. $y = \cos\left(x - \frac{\pi}{2}\right)$

15. $y = \cos 2(x + \pi)$

16. $f(x) = \frac{1}{2} \sin\left(x - \frac{3\pi}{2}\right)$

17. $y = 4 \sin \frac{1}{3}\left(x + \frac{\pi}{2}\right)$

18. $f(x) = \cos\left(x - \frac{\pi}{8}\right) + 2$

19. $y = 3 \cos\left(x + \frac{3\pi}{4}\right) - 1$

20. $y = \sin 2(x + 2\pi) - 3$

EXAMPLES 1 and 2

on pp. 915–916
for Exs. 3–21