

Sketch a complete graph of the function using the appropriate units.

1. **D** $f(x) = \sin(2x)$ 2. **R** $f(x) = \cos(4x)$ 3. **D** $f(x) = \cos\left(\frac{1}{2}x\right)$ 4. **R** $f(x) = \sin\left(\frac{1}{3}x\right)$
 5. **D** $f(x) = 4\sin x$ 6. **R** $f(x) = \frac{3}{2}\sin x$ 7. **D** $f(x) = \frac{1}{2}\cos x$ 8. **R** $f(x) = 3\sin x$

List all transformations, then sketch a complete graph of the function.

9. $f(x) = \sin\left(\frac{1}{2}(x - 45^\circ)\right)$ 10. **R** $f(x) = 2\sin x - 2$ 11. **D** $f(x) = \frac{3}{2}\cos x - 1$
 12. $f(x) = \sin(x + 90^\circ) - \frac{1}{2}$ 13. $f(x) = \sin\left(x - \frac{\pi}{6}\right) + 2$ 14. **R** $f(x) = 3\cos(2x) - 1$
 15. **D** $f(x) = 3\cos x + 1$ 16. $f(x) = \cos\left(2\left(x - \frac{\pi}{4}\right)\right)$

Find the sine equation and the cosine equation of the function graphed.

