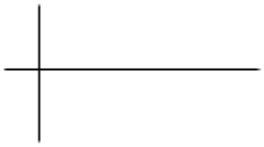
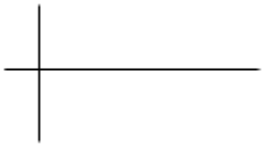
Graphing Sine and Cosine

Sketch each graph with 5 key points.

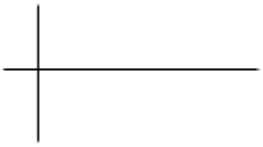
1. y = sin x



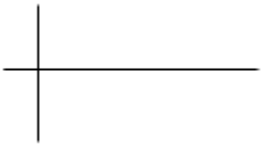
2. y = cos x



3. y = –sin x



4. y = –cos x



Identify the amplitude, period, phase shift, vertical shift for each function.

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

amplitude = _____
b = _____
period = _____
Horizontal shift _____
Vertical Shift _____

6. $y = -3\cos(x + \pi) - 2$

amplitude = _____
b = _____
period = _____
Horizontal shift _____
Vertical Shift _____

7. $y = \sin 3x + 4$

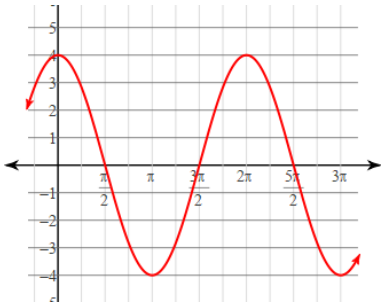
amplitude = _____
b = _____
period = _____
Horizontal shift _____
Vertical Shift _____

8. $y = \frac{1}{2}\cos\frac{\pi x}{2} - 3$

amplitude = _____
b = _____
period = _____
Horizontal shift _____
Vertical Shift _____

Write two possible equations for each graph. One in terms of sine and the other in terms of cosine.

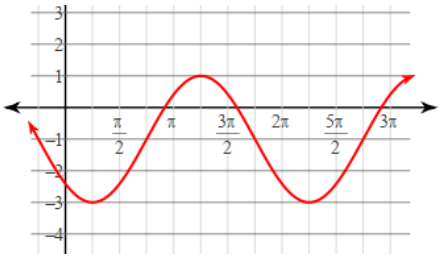
9.



Sine Graph
y =

Cosine Graph
y =

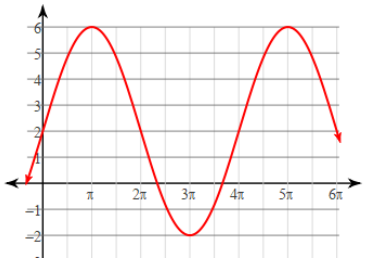
10.



Sine Graph
y =

Cosine Graph
y =

11.

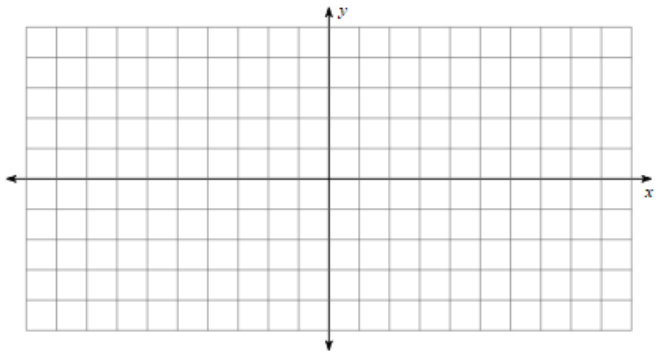


Sine Graph
y =

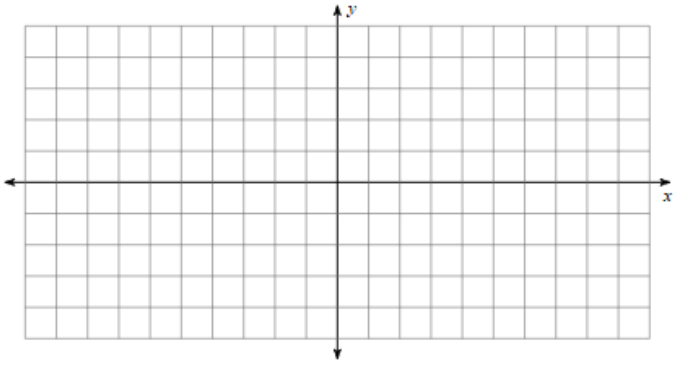
Cosine Graph
y =

Sketch each graph with 5 key points.

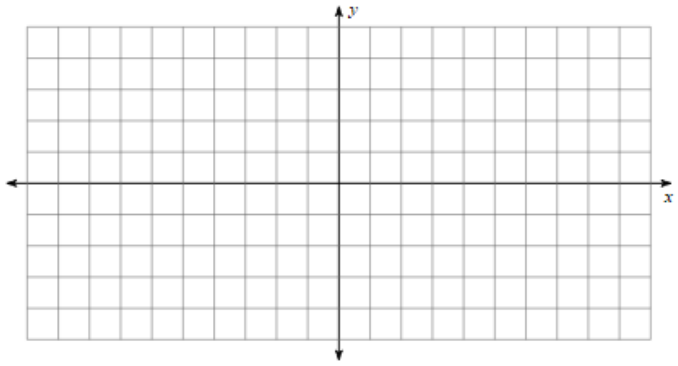
12. $y = 2\sin\left(x + \frac{\pi}{3}\right) + 3$



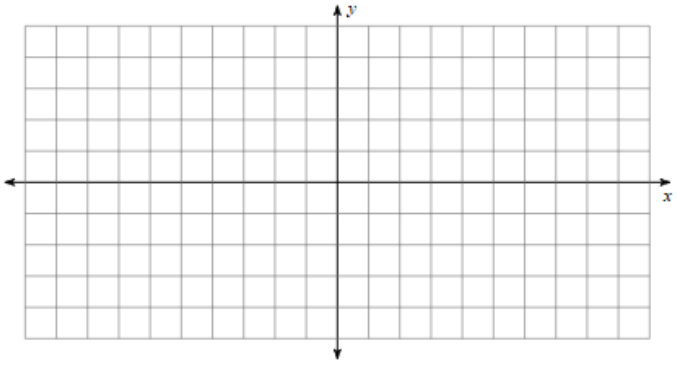
13. $y = \cos(x + 3\pi) - 4$



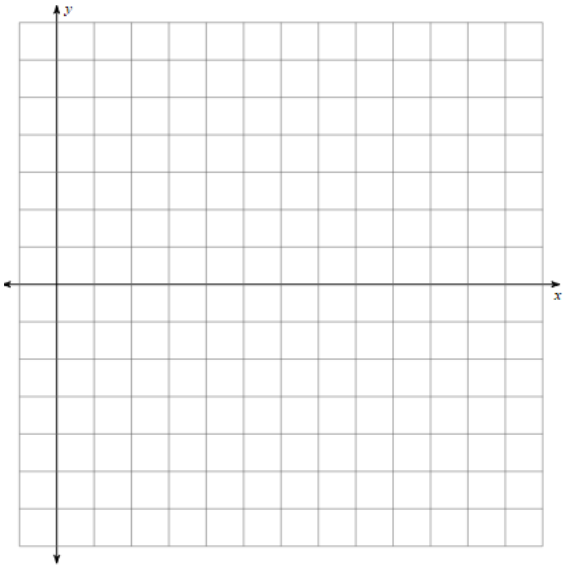
14. $y = \tan x$



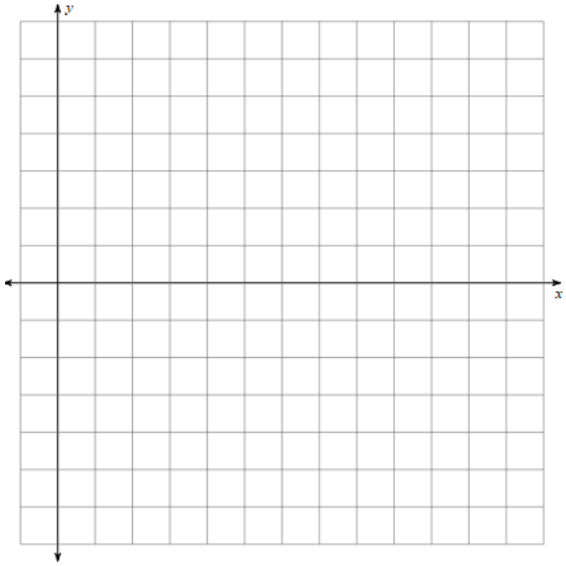
15. $y = 5\cos\left(x + \frac{\pi}{2}\right)$



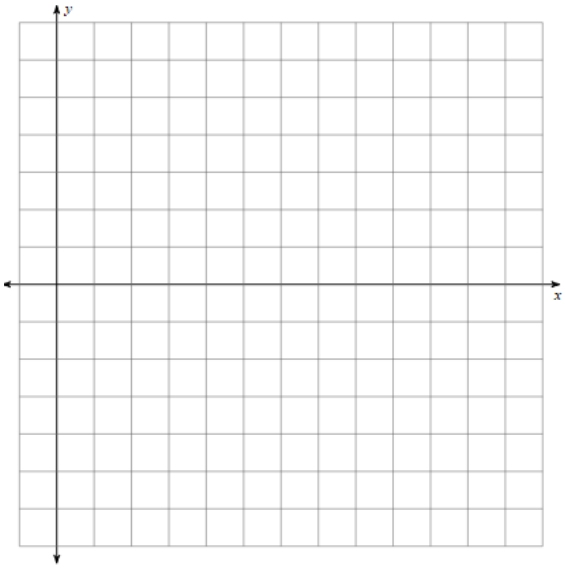
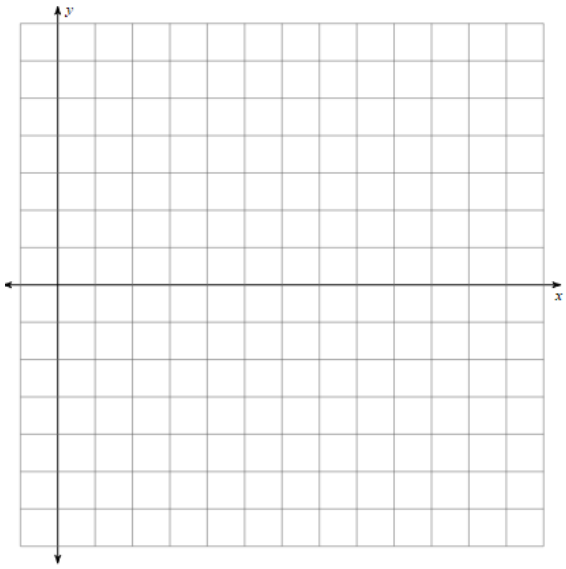
16. $y = \frac{1}{2}\sin(x - \pi) + 3$



17. $y = -3\cos\frac{\pi x}{2} - 2$



18. $y = 4\sin(3x) - 1$



19. $y = -4\sin\frac{x}{5} - 2$