

Name: \_\_\_\_\_

Date: \_\_\_\_\_

|                          |   |
|--------------------------|---|
| <b>Learning Goal 5.1</b> | Graphing primary trigonometric functions, including transformations and characteristics |
|--------------------------|---|

**Summary of Transformations** of the form  $y = a \sin(b(x - c)) + d$  and  $y = a \cos(b(x - c)) + d$

Amplitude

Phase Shift

Vertical Displacement

Maximum

Minimum

Period

Period Start

Period End

**Example** Fill out the table for the function  $y = 4 \sin(2x - 10) + 5$ .

Vertical Displacement

Amplitude

Max

Min

Period

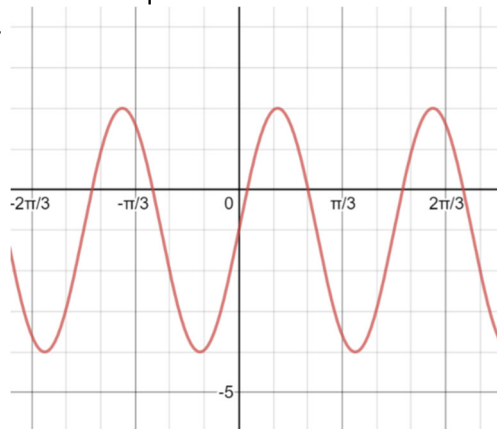
Phase Shift

Period Start

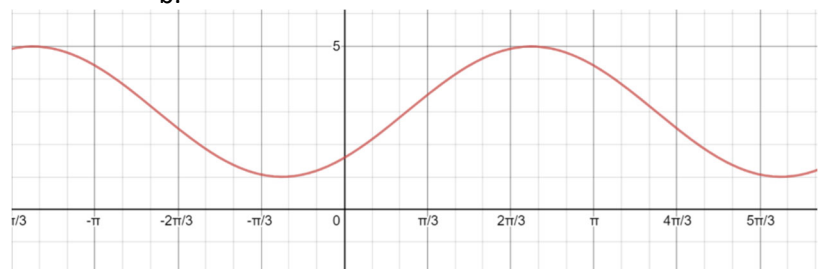
Period End

**Example** Find an equation for each of the following functions:

a.

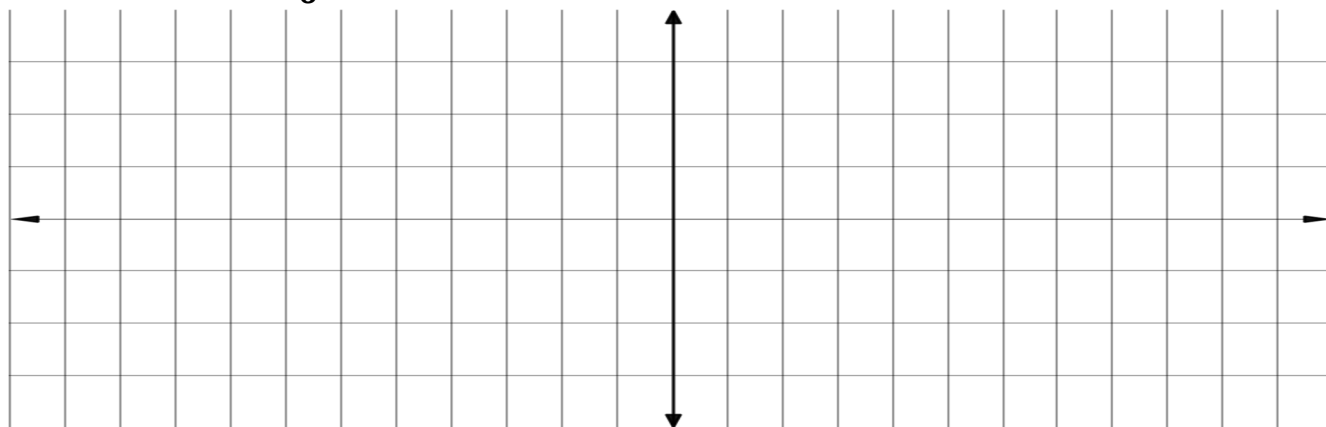


b.

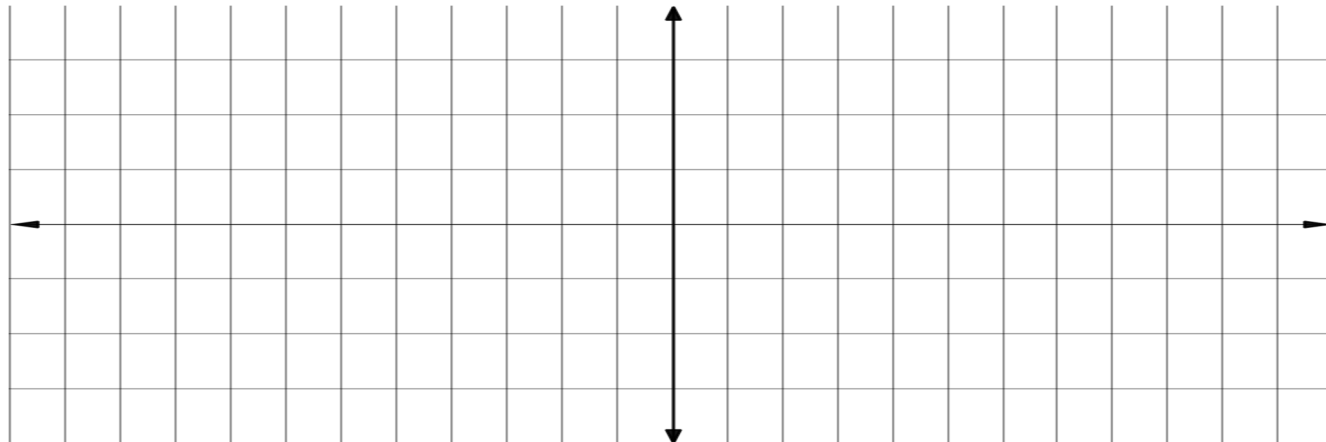


**Example** Sketch two cycles of the graph of the functions below. State the coordinates of 5 points on the graph.

a.  $y = 2 \sin\left(x - \frac{\pi}{6}\right) - 5$



b.  $f(x) = -3 \cos 4x + 2$



c.  $g(x) = 4 \cos \frac{2\pi}{3}(x + 1) + 2$

