

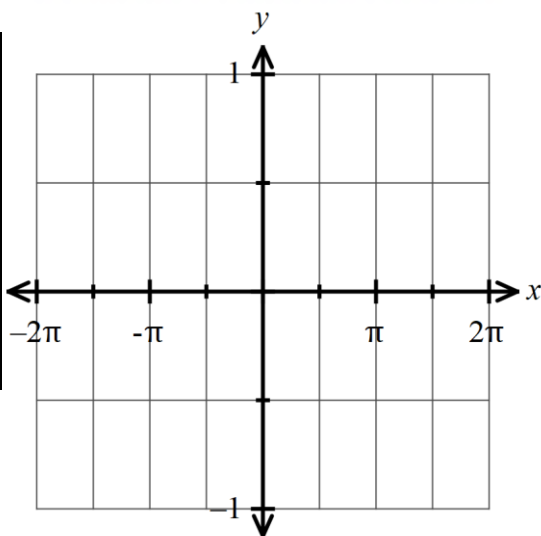
### Parent Functions #11

Name of Graph: \_\_\_\_\_

### Key Features

Equation: \_\_\_\_\_

$x$	$f(x)$



Domain:

Positive:

Range:

Negative:

$x$ -intercept(s):

Maximums /Minimums

$y$ -intercept:

Symmetry:

Increasing:

End Behavior:

Decreasing:

$$\lim_{x \rightarrow -\infty} f(x) =$$

Constant:

$$\lim_{x \rightarrow \infty} f(x) =$$

Amplitude:

Phase Shift:

Period:

Vertical Shift:

Midline:

Cycle:

Transformation Equation:

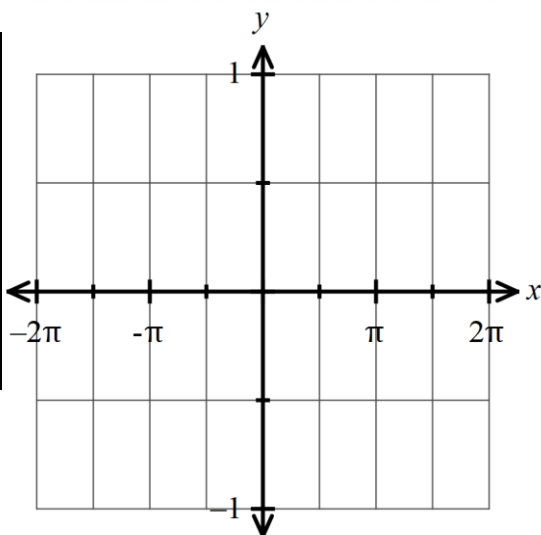
### Parent Functions #11

Name of Graph: \_\_\_\_\_

### Key Features

Equation: \_\_\_\_\_

$x$	$f(x)$



Domain:

Positive:

Range:

Negative:

$x$ -intercept(s):

Maximums /Minimums

$y$ -intercept:

Symmetry:

Increasing:

End Behavior:

Decreasing:

$$\lim_{x \rightarrow -\infty} f(x) =$$

Constant:

$$\lim_{x \rightarrow \infty} f(x) =$$

Amplitude:

Phase Shift:

Period:

Vertical Shift:

Midline:

Cycle:

Transformation Equation:

## Steps for solving cosine equation:

1. Get cosine by itself—do inverse operations
2. Use “All Students Take Calculus” to draw triangles in correct quadrants
3. Label the sides of the triangles—adjacent over hypotenuse
4. Find the reference angle
5. Find the angles in standard position

Stop here if you are given an interval in the directions

$$\text{EX. } -2 \cos x = \sqrt{2}$$

$$\text{EX. } 2\sqrt{3} - 6 \cos x = 5\sqrt{3}$$

## Steps for solving cosine equation:

1. Get cosine by itself—do inverse operations
2. Use “All Students Take Calculus” to draw triangles in correct quadrants
3. Label the sides of the triangles—adjacent over hypotenuse
4. Find the reference angle
5. Find the angles in standard position

Stop here if you are given an interval in the directions

$$\text{EX. } -2 \cos x = \sqrt{2}$$

$$\text{EX. } 2\sqrt{3} - 6 \cos x = 5\sqrt{3}$$