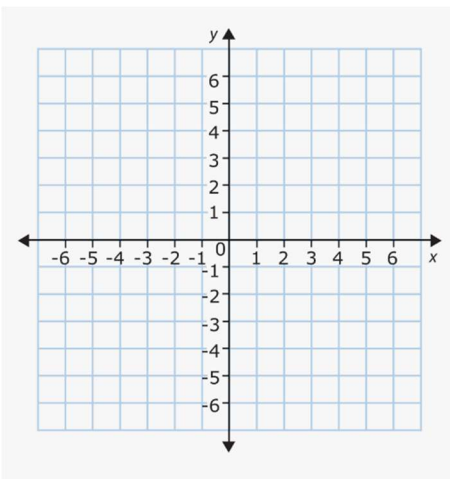


SC Algebra 1
3.4 Intercepts of Graphs

Warm Up:

Graph each point on the same coordinate plane.

1. A (2, 0)
2. B (-2, -4)
3. C (3, 2)
4. D (4, -2)
5. E (-1, 3)



Speak Like A Mathematician:

x-intercept: the point at which the _____ crosses the _____.

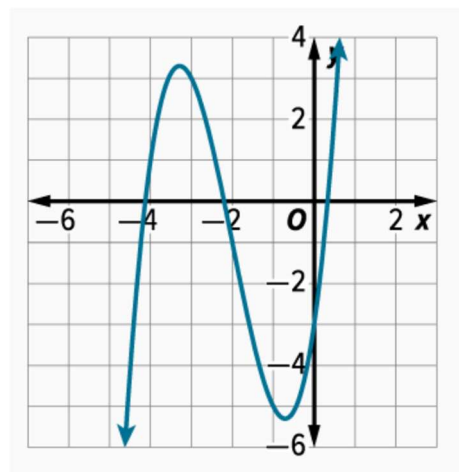
y-intercept: the point at which the _____ crosses the _____.

positive: where the graph of a function lies _____ the _____.

negative: where the graph of a function lies _____ the _____.

root: a _____ of an equation.

zero: the _____ of the graph. The value of x for which _____.



SC Algebra 1
3.4 Intercepts of Graphs

Example 1: Intercepts of the Graph of a Linear Function

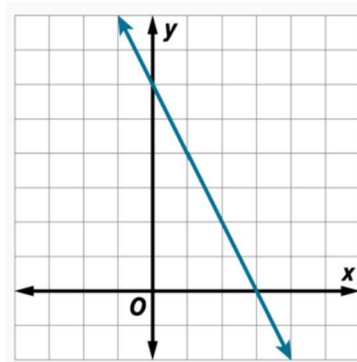
Use the graph to estimate the x- and y-intercepts of the function and describe where the function is positive and negative.

x-intercept:

y-intercept:

positive:

negative:

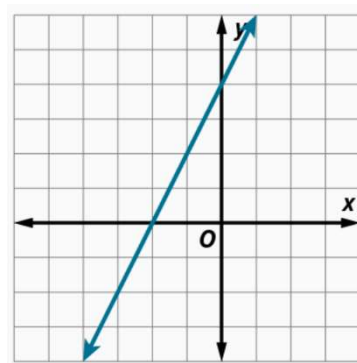


x-intercept:

y-intercept:

positive:

negative:



Example 2: Intercepts of the Graph of a Nonlinear Function

Determine whether $f(x)$ and $g(x)$ are continuous, discrete, or neither. Explain your reasoning. Also, give the domain and range.

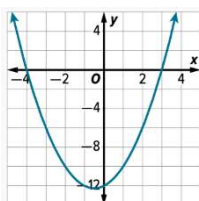
Use the graph to estimate the x- and y-intercepts of the function and describe where the function is positive and negative.

x-intercept:

y-intercept:

positive:

negative:

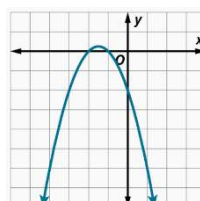


x-intercept:

y-intercept:

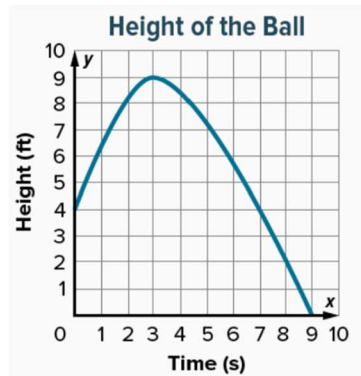
positive:

negative:



Example 3: Find and Interpret Intercepts from a Graph

- The graph shows the height of a ball for each second, x , that it is airborne. Use the graph to estimate the x - and y -intercepts of the function, where the function is positive and negative, and interpret the meanings in the context of the situation.



- The graph shows the number of people, y , at a gym x hours after the gym opens. Use the graph to estimate the x - and y -intercepts, then describe the meaning of the intercepts in the context of this situation.

