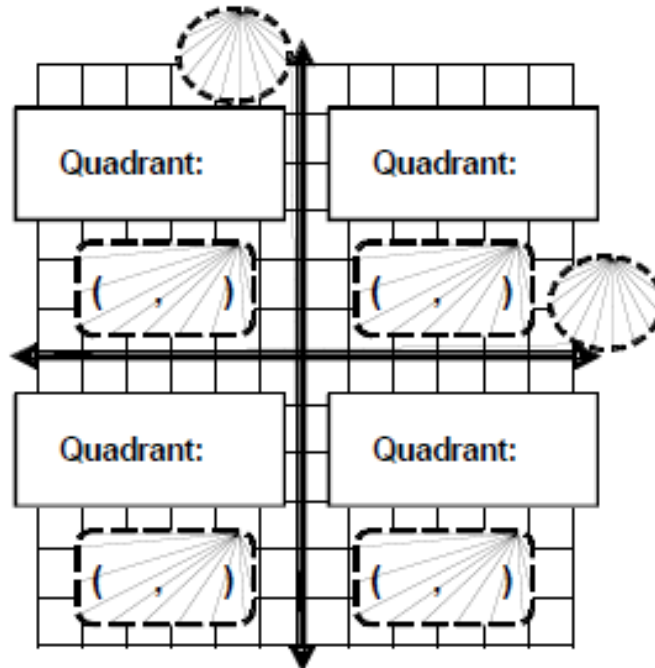
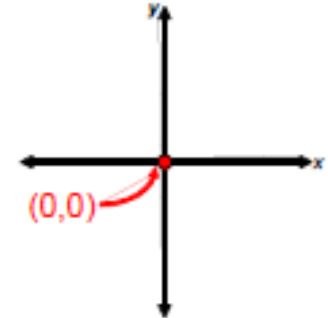
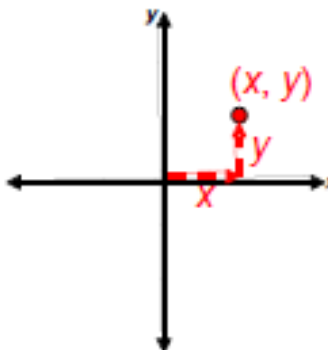
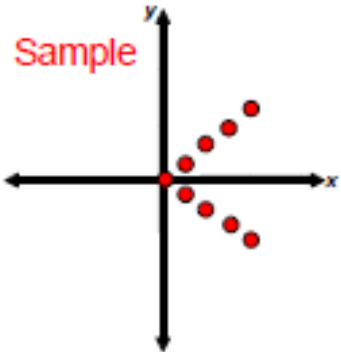
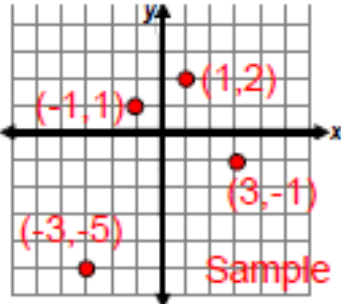
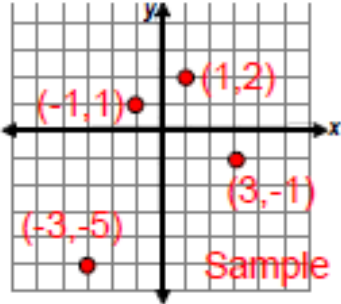
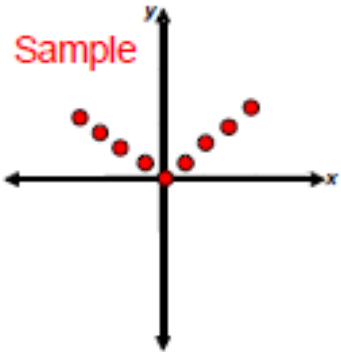
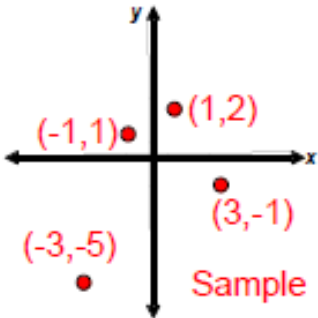
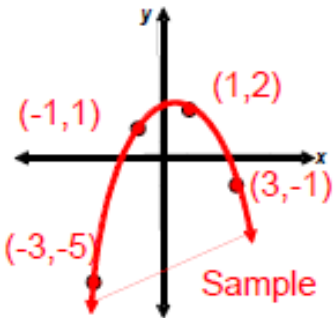
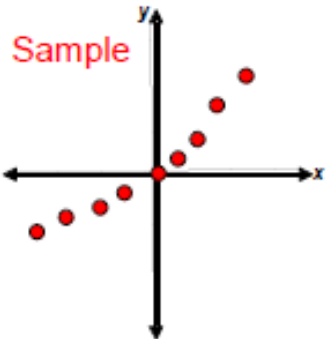
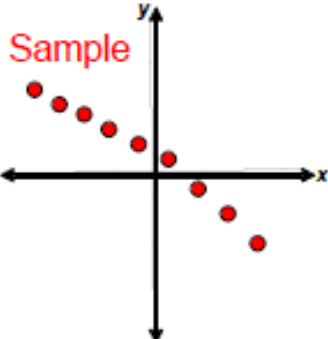


Cartesian coordinate plane



Term	Representation on Coordinate Plane	Verbal Description
<input data-bbox="219 1255 344 1329" type="text"/>		<ul style="list-style-type: none"> • Intersection of the $x = 0$ and $y = 0$ lines • Intersection of the x and y axes • Point $(0, 0)$
<input data-bbox="175 1591 375 1665" type="text"/>		<ul style="list-style-type: none"> • Representation of the x and y coordinates • Point (x, y)

Term	Representation on Coordinate Plane	Verbal Description
<input data-bbox="203 394 354 468" type="text"/>	<p data-bbox="462 296 586 338">Sample</p> 	<ul data-bbox="849 390 1430 464" style="list-style-type: none"> • Set of ordered pairs represented by a set of points, graph, or an equation
<input data-bbox="203 772 354 846" type="text"/>	<p data-bbox="418 642 818 674">Domain: $\{x \mid x \in -3, -1, 1, 3\}$</p> 	<ul data-bbox="849 768 1333 873" style="list-style-type: none"> • Set of all the x-coordinates in a relation • Independent variable
<input data-bbox="203 1150 354 1224" type="text"/>	<p data-bbox="423 1014 813 1052">Range: $\{y \mid y \in -5, -1, 1, 2\}$</p> 	<ul data-bbox="849 1146 1333 1251" style="list-style-type: none"> • Set of all the y-coordinates in a relation • Dependent variable
<input data-bbox="203 1528 354 1602" type="text"/>	<p data-bbox="462 1423 586 1465">Sample</p> 	<ul data-bbox="849 1440 1430 1703" style="list-style-type: none"> • Relation in which each element of the domain is paired with exactly one element of the range • Set of points in which x values only occur once • Graph where any vertical line will only cross the graph once

Term	Representation on Coordinate Plane	Verbal Description
<input data-bbox="217 407 373 483" type="text"/>		<ul style="list-style-type: none"> • Individual points • Points not connected
<input data-bbox="194 758 383 833" type="text"/>		<ul style="list-style-type: none"> • Line or smooth curve • Infinite number of points
<input data-bbox="217 1123 383 1199" type="text"/>		<ul style="list-style-type: none"> • Both the x-values and the y-values increase • Intervals in the graph when the function goes up from left to right
<input data-bbox="204 1484 383 1560" type="text"/>		<ul style="list-style-type: none"> • x-values increase and y-values decrease • Intervals in the graph when the function goes down from left to right

Function notation

Functional notation is a method used to represent the point (x, y) as $(x, f(x))$. Other letters besides "f" may be used in order to identify multiple functions by different letters.

- If $f(x) = 2x + 3$, find $f(4)$ and $f(-1)$.

$$f(\quad) = 2(\quad) + 3$$

$$f(\quad) = 2(\quad) + 3$$

$$f(\quad) =$$

$$f(\quad) =$$

So the ordered pair (\quad, \quad) is included in the function $f(x)$.

So the ordered pair (\quad, \quad) is included in the function $f(x)$.

- A) Given that $g(x) = x^2 + 2$ and $h(x) = 4x + 10$, evaluate the following.

$$h(3)$$

$$g(-3)$$

$$g(a + 1)$$

- B) In function notation, $(x, f(x))$, which symbols represent the domain and range?

Label the axes, the origin, and the quadrants of the coordinate plane below, and then graph the points in the set.

$$\{(-2, 5), (3, 4), (-3, -5), (0, 4), (1, 0), (4, 5), (0, -2)\}$$

- A) Identify the domain.

- B) Identify the range.

- C) Is the relation a function?
Explain your reasoning.

- D) Is it continuous or discrete?
Explain your reasoning.

