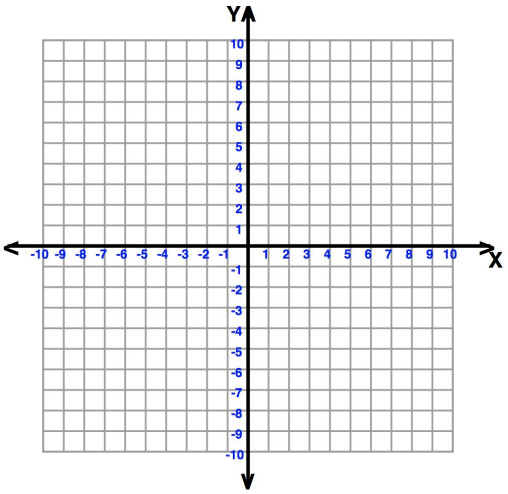
TEST REVIEW Unit 4 Graphing Quadratics Name: _____

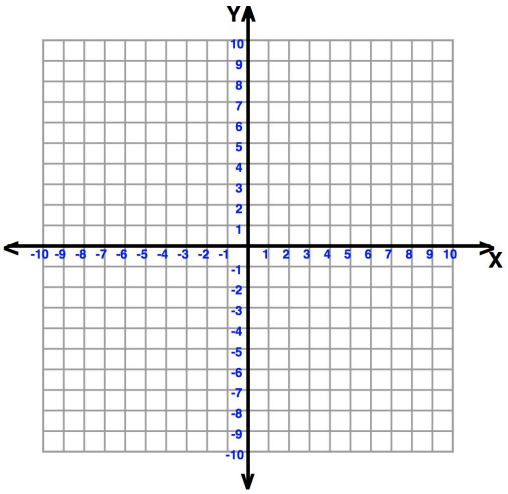
Period: _____

Graph a function that has… (Mark important points)

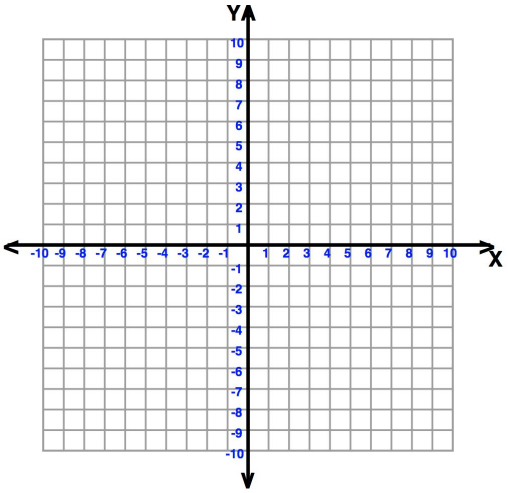
x-intercepts x = -1 and x = 4



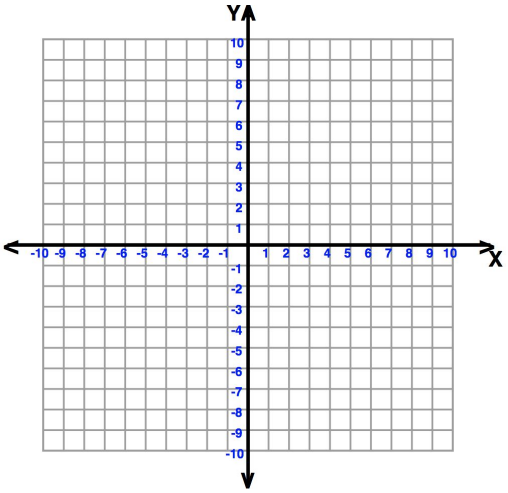
a vertex at (-3,2) and y intercept of y = -3



An axis of symmetry at x = 2

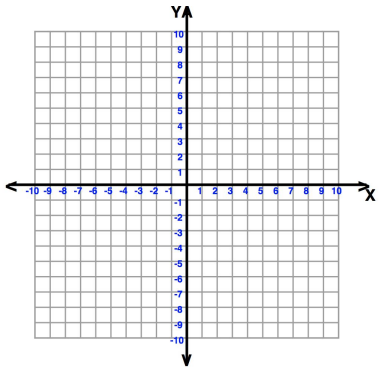


a vertex at (-3,2) and y intercept of y = 10

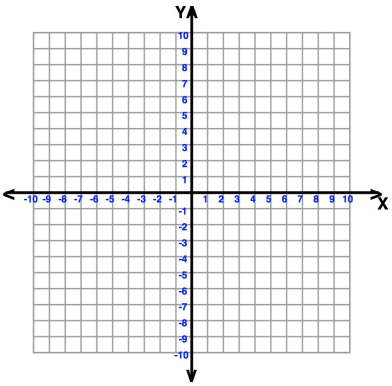


Graph the function. (Use a table and 5 points)

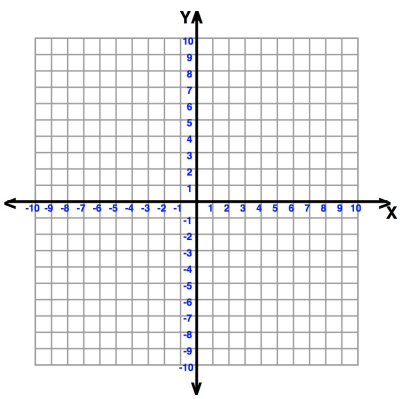
$f(x) = \frac{1}{2} x^2$



$g(x) = -2x^2 + 6$



$h(x) = 3(x+5)^2 - 1$



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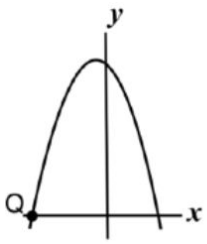
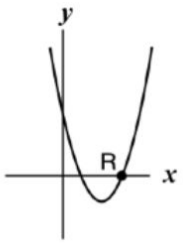
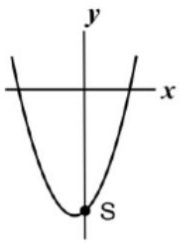
Match the graph with the function… explain your decision.

1. Here are 4 equations of quadratic functions and 4 sketches of the graphs of quadratic functions.

A. $y = x^2 - 6x + 8$	B. $y = (x-6)(x+8)$	C. $y = (x-6)^2 + 8$	D. $y = -(x+8)(x-6)$

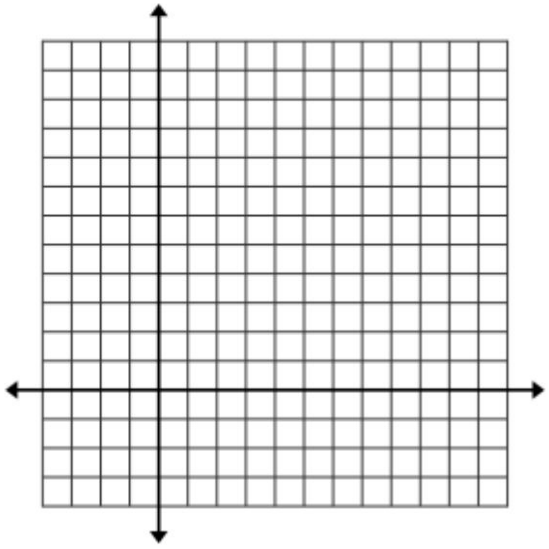
1.	2.	3.	4.
			

a. Match the equation to its graph and explain your decision.

Equation A ***matches*** Graph ....., because

Real World Situation

While playing basketball this weekend Frank shoots an air-ball. The height h in feet of the ball is given by $h(x) = -16(t-1)^2 + 24$ where t is time in seconds.



a) How long will it take the ball to hit the ground?

b) What is the maximum height of the ball?

c) What are the domain and range of the function?

d) How does the situation restrict the domain and range?

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Find the vertex, x-intercepts, y-intercepts from standard form and vertex form, then convert it

$y = x^2 - 4x + 3$

Vertex _____ is it a maximum or a minimum?_____

y-intercept _____ x-intercepts _____

Rewrite the equation in vertex form
(complete the square)

$y = x^2 + 8x - 20$

Vertex _____ is it a maximum or a minimum?_____

y-intercept _____ x-intercepts _____

Rewrite the equation in vertex form
(complete the square)

$y = (x - 5)^2 - 4$

Vertex _____ is it a maximum or a minimum?_____

y-intercept _____ x-intercepts _____

Rewrite the equation in standard form

$y = (x + 1)^2 + 16$

Vertex _____ is it a maximum or a minimum?_____

y-intercept _____ x-intercepts _____

Rewrite the equation in standard form

Telling/writing the function from the table… some extra examples and some practice

Tell whether the table of values represents a function is linear, quadratic or exponential

Write a quadratic equation from the following table