

Name: Key
 Date: _____ Block: _____

Find the vertex of the following equations:

a. $y = 2(x - 28)^2 + 72$

$(28, 72)$

b. $y = (x + 500)^2 - 250$

$(-500, -250)$

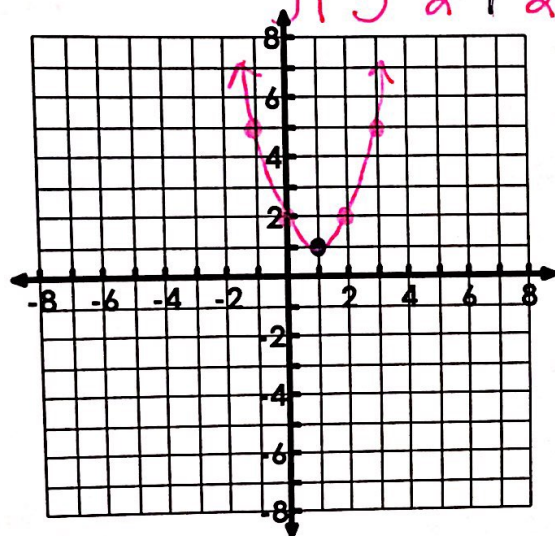
c. $y = -(x + 22)^2 + 22$

$(-22, 22)$

Graph the following quadratic functions:

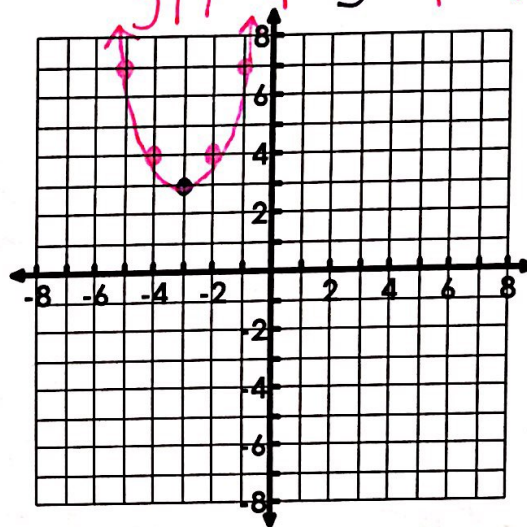
1. $y = (x - 1)^2 + 1$

x	-1	0	1	2	3
y	5	2	1	2	5



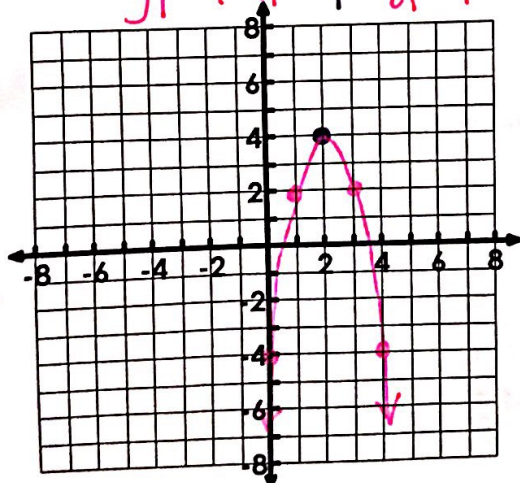
2. $y = (x + 3)^2 + 3$

x	-5	-4	-3	-2	-1
y	7	4	3	4	7



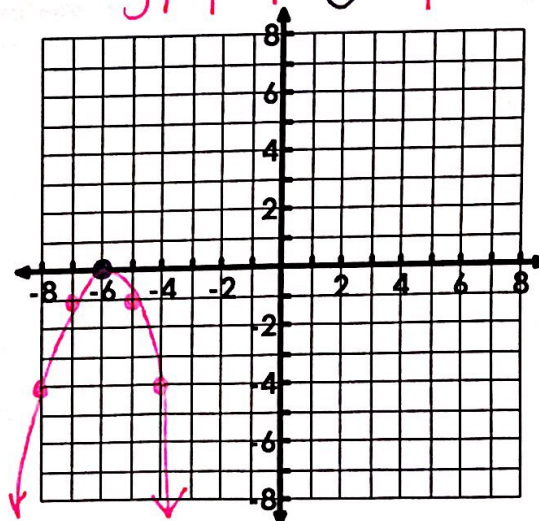
3. $y = -2(x - 2)^2 + 4$

x	0	1	2	3	4
y	-4	2	4	2	-4



4. $y = -(x + 6)^2$

x	-8	-7	-6	-5	-4
y	-4	-1	0	-1	-4



Match the graph of a quadratic to an equation:

Answer: B

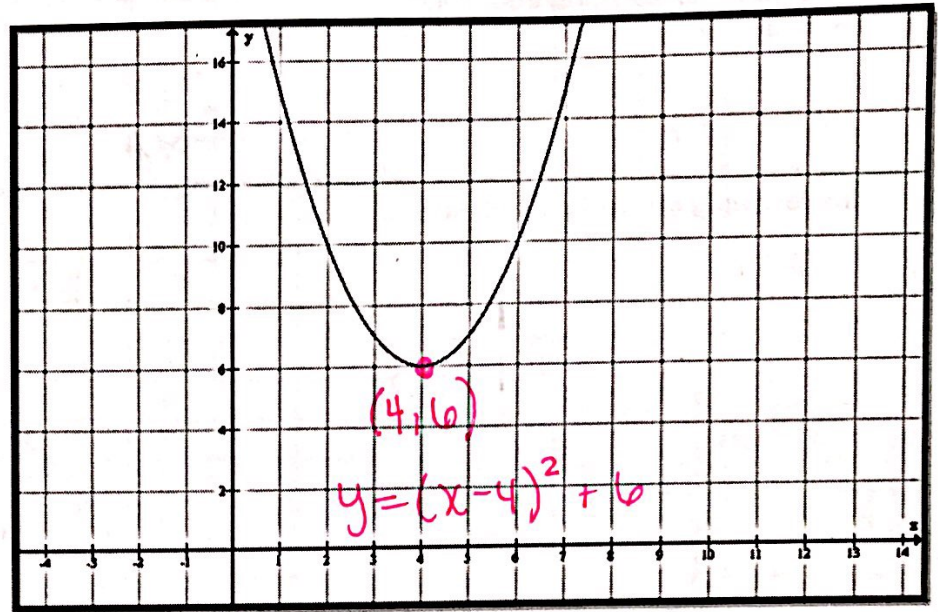
Equations:

a. $y = -(x + 4)^2 + 6$

b. $y = (x - 4)^2 + 6$

c. $y = 2(x - 4)^2 - 6$

d. $y = (x + 4)^2 + 6$



Review: Factor the following expressions completely.

a. $2x^2 + 16x$

$= 2x(x + 8)$

b. $x^2 - 12x + 36$

$= (x - 6)(x - 6)$

c. $x^2 - 7x + 6$

$= (x - 6)(x - 1)$

d. $5x^2 - 10x - 15$

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

e. $x^2 + x - 2$

$= (x + 2)(x - 1)$

f. $7x^2 - 17x + 10$

$= (7x - 5)(x - 2)$
 $\frac{7x^2}{7x \cdot x}$ $\frac{10}{-5, -2}$
 $-1, -10$

g. $3x^2 + 16x + 20$

$= (3x + 10)(x + 2)$
 $\frac{3x^2}{3x \cdot x}$ $\frac{20}{1, 20}$
 $2, 10$
 $4, 5$

h. $3x^2 + x - 4$

$= (3x + 4)(x - 1)$
 $\frac{3x^2}{3x \cdot x}$ $\frac{-4}{-4, 1}$
 $-2, 2$

i. $5x^2 - 12x + 4$

$= (5x - 2)(x - 2)$
 $\frac{5x^2}{5x \cdot x}$ $\frac{4}{-2, -2}$
 $-4, -1$