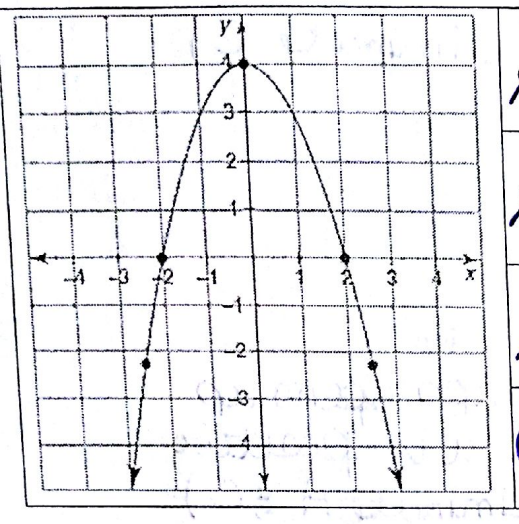
ay 8 – Three Forms of Quadratics

ractice Assignment

Name: Key

Date: _____ **Block:** _____

for each graph below, determine which equation belongs to each graph. Explain your reasoning.



~~a.~~ $y = x^2 + 4$

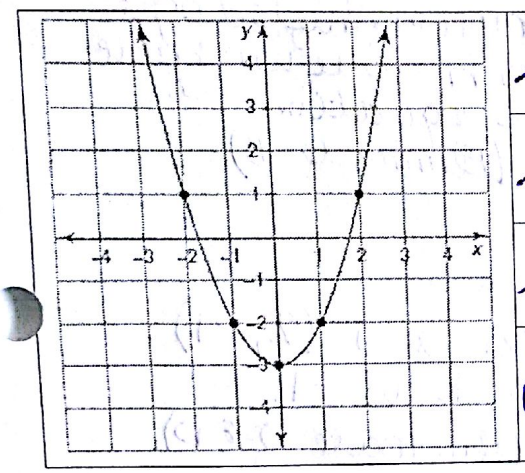
~~b.~~ $y = x^2 - 4$

~~c.~~ $y = -x^2 - 4$

d. $y = -x^2 + 4$

Explanation:

- graph opens down so a is negative (eliminate A & B)
- y-int is (0, 4) (eliminate C)



~~a.~~ $y = x^2 + 3$

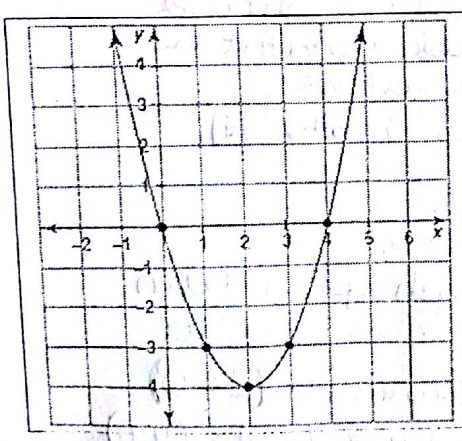
~~b.~~ $y = -x^2 + 3$

~~c.~~ $y = -x^2 - 3$

d. $y = x^2 - 3$

Explanation:

- opens up, so a is positive (eliminate B & C)
- y-int is (0, -3) (eliminate A)



~~a.~~ $y = -x(x - 4)$

b. $y = x(x - 4)$

~~c.~~ $y = -x(x + 4)$

~~d.~~ $y = x(x + 4)$

Explanation:

- opens up so a is positive (eliminate A & C)
- x-int is (0,0) and (4,0) so the factors are (x+0) and (x−4). ↳ x (eliminate D)

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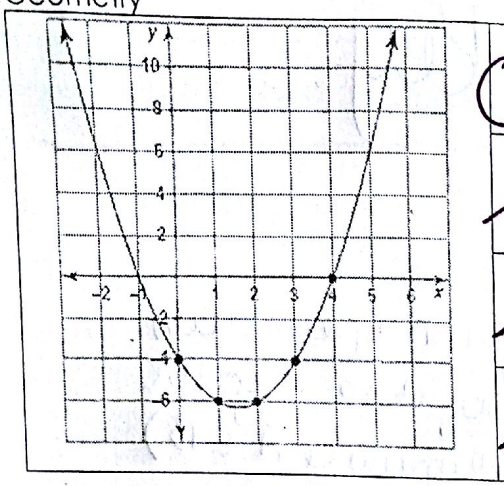


a. $y = x^2 - 3x - 4$

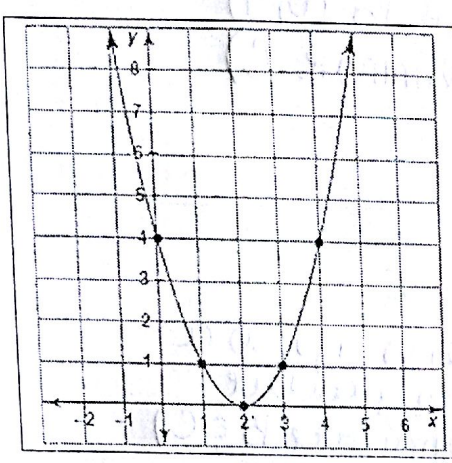
~~b.~~ $y = -x^2 - 3x - 4$

~~c.~~ $y = x^2 - 3x + 4$

~~d.~~ $y = -x^2 - 3x + 4$

Explanation:

- Graph opens up (eliminate B & D)
- y-int is (0, -4) (eliminate C)



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

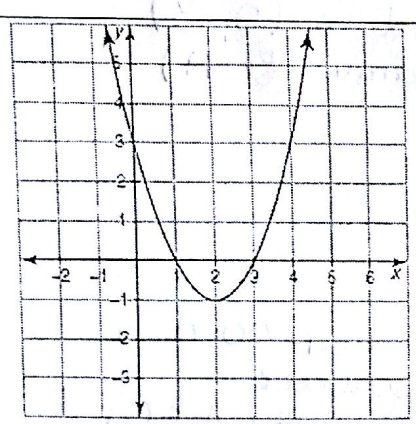
~~b.~~ $y = (x + 2)^2$

~~c.~~ $y = -(x - 2)^2$

d. $y = (x - 2)^2$

Explanation:

- graph opens up so a is positive (eliminate A & C)
- graph is shifted right so h value is negative in equation (Eliminate B)



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

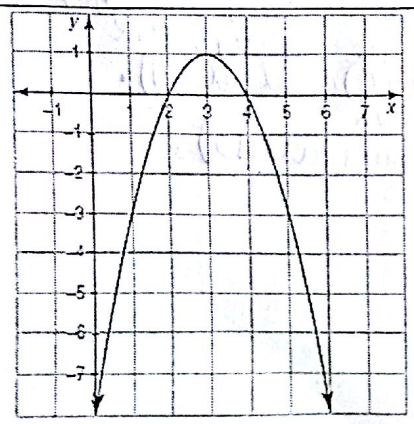
~~b.~~ $y = (x + 2)^2 + 1$

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

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

Explanation:

- Vertex is (2, -1) so k is -1. (eliminate B & D)
- h-value should look negative in equation (eliminate A)



~~a.~~ $y = (x + 2)(x + 4)$

~~b.~~ $y = (x - 2)(x - 4)$

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

~~d.~~ $y = -(x + 2)(x + 4)$

Explanation:

- graph opens down so a is negative (eliminate A & B)
- x-int are (2,0) & (4,0) so factors are (x-2) and (x-4). (eliminate D)

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