

Graph a quadratic w/out a calculator

Name: Key
period: _____

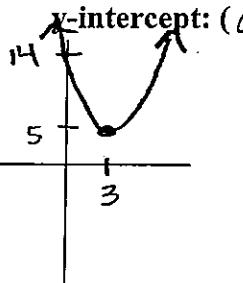
Given an equation: Find

- (a) vertex,
(c) y-intercept,

- (b) if the vertex is a maximum or minimum,
(d) then, sketch a rough graph

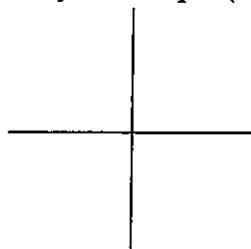
1. $f(x) = (x - 3)^2 + 5$

vertex: (3, 5)
maximum / minimum
y-intercept: (0, 14)



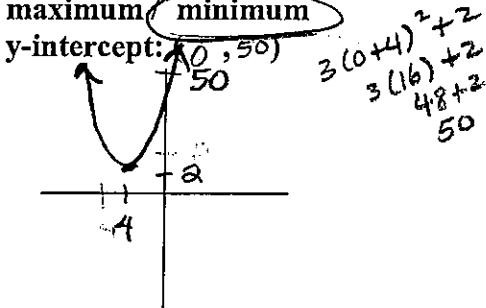
2. $f(x) = -1(x - 2)^2 + 1$

vertex: (,)
maximum / minimum
y-intercept: (,)



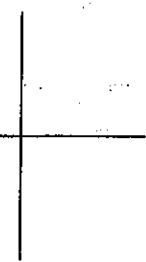
3. $f(x) = 3(x + 4)^2 + 2$

vertex: (-4, 2)
maximum / minimum
y-intercept: (0, 50)



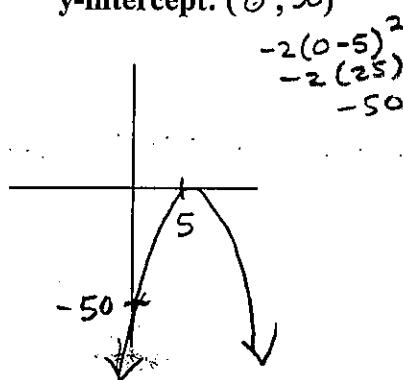
4. $f(x) = 5(x + 1)^2 - 3$

vertex: (,)
maximum / minimum
y-intercept: (,)



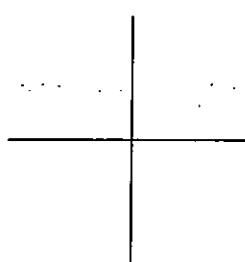
5. $f(x) = -2(x - 5)^2$

vertex: (5, 0)
maximum / minimum
y-intercept: (0, -50)



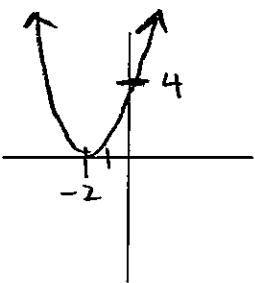
6. $f(x) = (x - 4)^2 - 1$

vertex: (,)
maximum / minimum
y-intercept: (,)



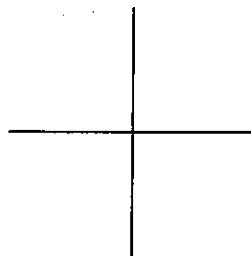
7. $f(x) = (x + 2)^2$

vertex: (-2, 0)
maximum / minimum
y-intercept: (0, 4)



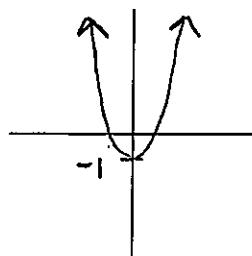
8. $f(x) = x^2 + 3$

vertex: (,)
maximum / minimum
y-intercept: (,)



9. $f(x) = 2x^2 - 1$

vertex: (0, -1)
maximum / minimum
y-intercept: (0, -1)



Given an equation: Rewrite the equation in the form of $f(x) = (x - h)^2 + k$

- (a) vertex,
- (b) if the vertex is a maximum or minimum,
- (c) y-intercept,
- (d) then, sketch a rough graph

10. $f(x) = x^2 + 6x + 1$

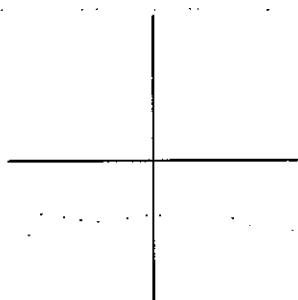
$$\left(\frac{-}{2}\right)^2 = \left(\frac{-}{ }\right)^2 = \underline{\hspace{2cm}}$$

$$f(x) = x^2 + 6x \underline{\hspace{2cm}} + 1 \underline{\hspace{2cm}}$$

$$f(x) = (\underline{\hspace{2cm}})^2 + 1 \underline{\hspace{2cm}}$$

$$f(x) = (\underline{\hspace{2cm}})^2 \underline{\hspace{2cm}}$$

vertex: ($\underline{\hspace{2cm}}, \underline{\hspace{2cm}}$)
maximum / minimum
y-intercept: ($\underline{\hspace{2cm}}, \underline{\hspace{2cm}}$)



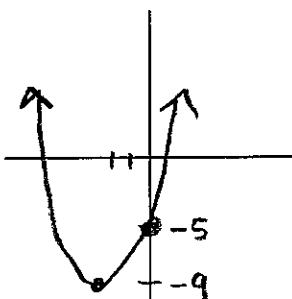
12. $f(x) = x^2 + 4x - 5$

$$\left(\frac{4}{2}\right)^2 = (2)^2 = 4$$

$$f(x) = x^2 + 4x \underline{+4} - 5 \underline{-4}$$

$$f(x) = (x + 2)^2 - 9$$

vertex: (-2, -9)
maximum / minimum
y-intercept: (0, -5)



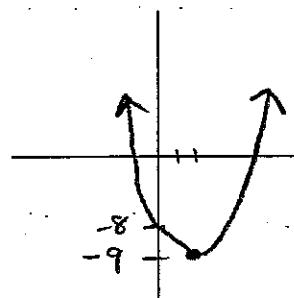
11. $f(x) = x^2 - 2x - 8$

$$\left(\frac{-2}{2}\right)^2 = (-1)^2 = 1$$

$$f(x) = x^2 - 2x \underline{+1} - 8 \underline{-1}$$

$$f(x) = (x - 2)^2 - 9$$

vertex: (2, -9)
maximum / minimum
y-intercept: (0, -8)



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

vertex: ($\underline{\hspace{2cm}}, \underline{\hspace{2cm}}$)
maximum / minimum
y-intercept: ($\underline{\hspace{2cm}}, \underline{\hspace{2cm}}$)

