

NAME:

Key

DATE:

A2.Q1.BERMEL:

GRAPHING FUNCTIONS

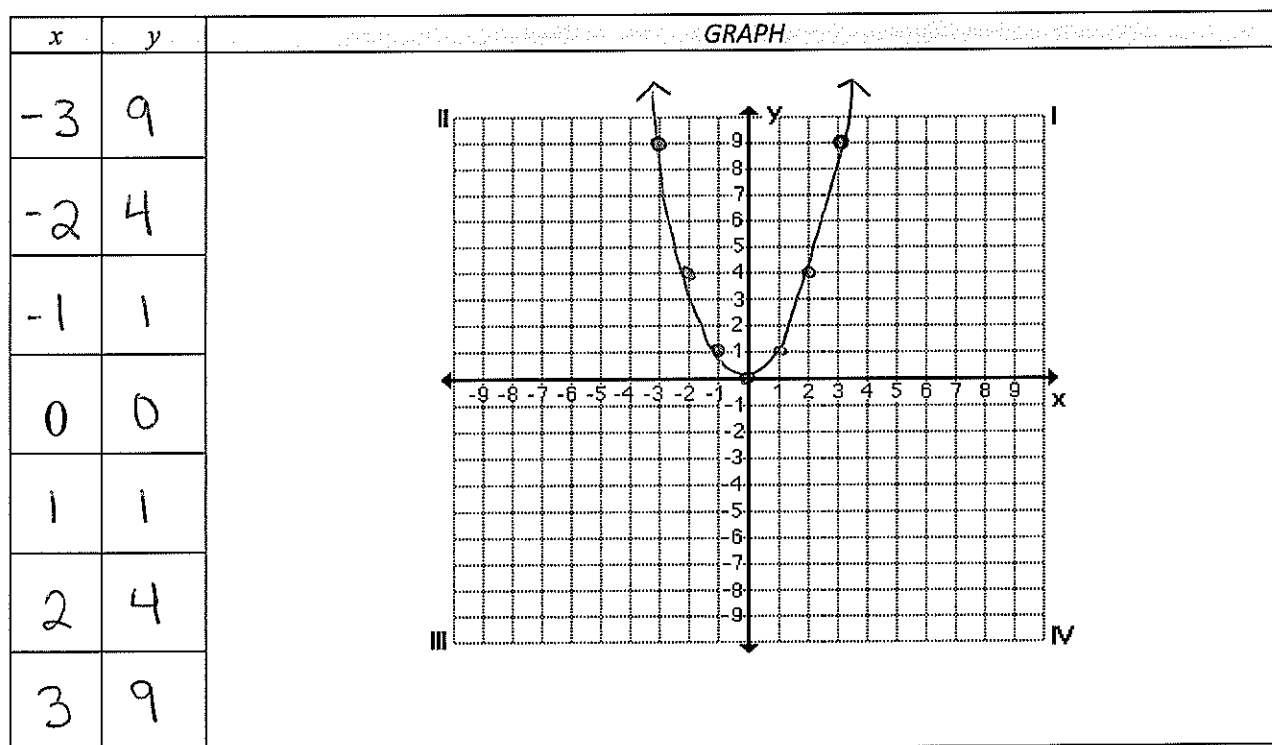
(DAY G4)

NOTES

TRANSFORMATIONS OF THE PARENT QUADRATIC FUNCTION

*NO CALCULATORS*PARENT: $f(x) = x^2$

TABLE OF VALUES AND GRAPH:

VERTEX: $(0,0)$ Y-INT: $y = 0$

AXIS OF SYMMETRY:

ZERO(S): $x = 0$

$$x = 0$$

$$f(x) = -/+ a(x-h)^2 + k$$

1. NEW FUNCTION: $f(x) = (x+2)^2 - 4$

Horizontal Translation: shift left 2

Reflection: no

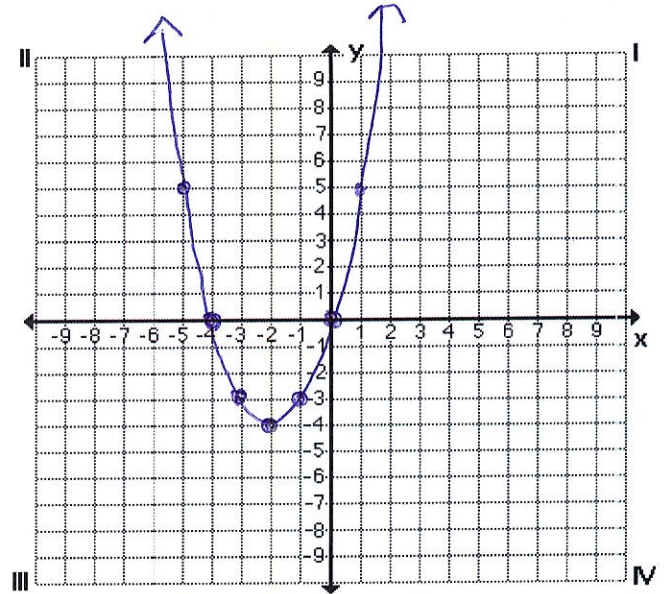
Vertical Translation: shift down 4

VETEX: $(-2, -4)$

Y-INT: $y = 0$

ZERO(S): $x = -4$ and $x = 0$

AXIS OF SYMMETRY: $x = -2$



2. NEW FUNCTION: $f(x) = (x-4)^2 - 9$

Horizontal Translation: shift right 4

Reflection: no

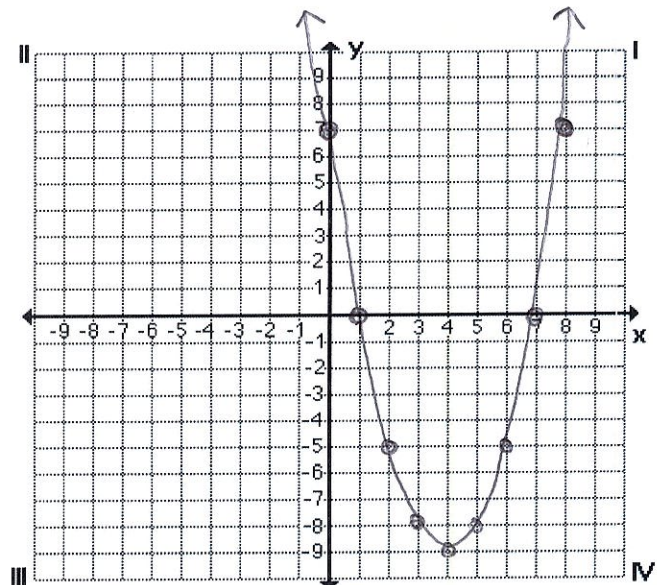
Vertical Translation: shift down 9

VETEX: $(4, -9)$

Y-INT: $y = 7$

ZERO(S): $x = 1$ and $x = 7$

AXIS OF SYMMETRY: $x = 4$



3. NEW FUNCTION: $f(x) = -(x+2)^2 + 9$

Horizontal Translation: shift left 2

Reflection: yes

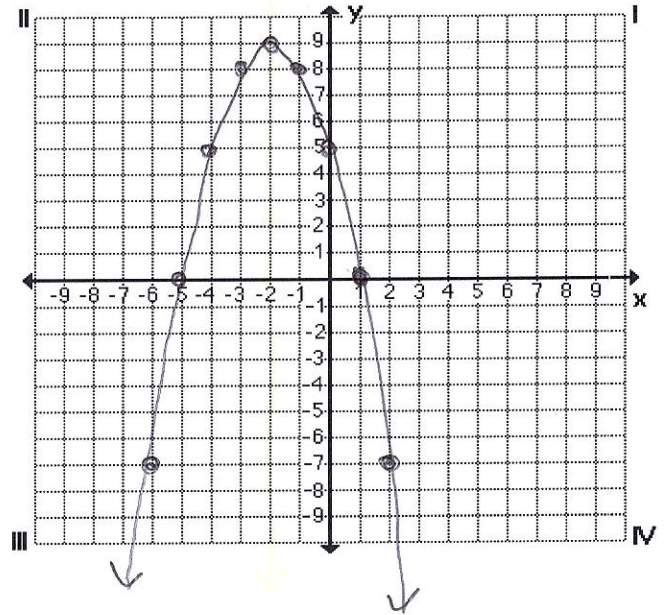
Vertical Translation: shift up 9

VETEX: $(-2, 9)$

Y-INT: $y = 5$

ZERO(S): $x = -5$ and $x = 1$

AXIS OF SYMMETRY: $x = -2$



4. NEW FUNCTION: $f(x) = -(x-1)^2 - 3$

Horizontal Translation: shift right 1

Reflection: yes

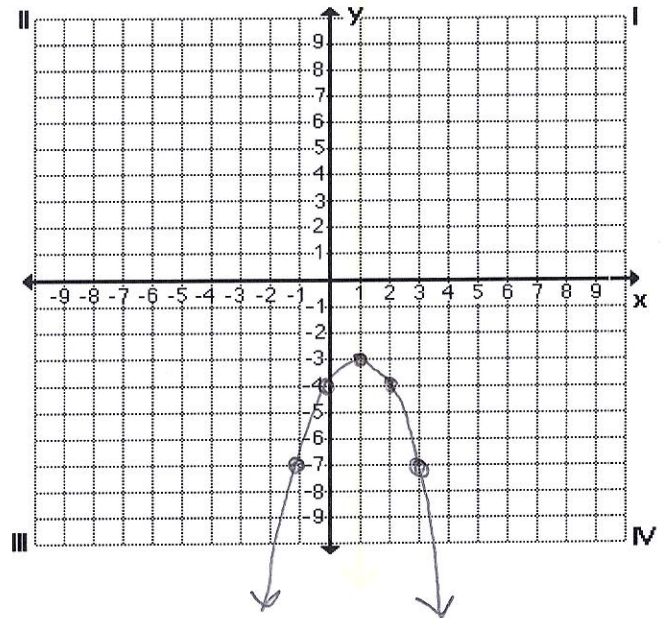
Vertical Translation: shift down 3

VETEX: $(1, -3)$

Y-INT: $y = -4$

ZERO(S): None

AXIS OF SYMMETRY: $x = 1$



5. NEW FUNCTION: $f(x) = (x+3)^2$

Horizontal Translation: shift left 3

Reflection: no

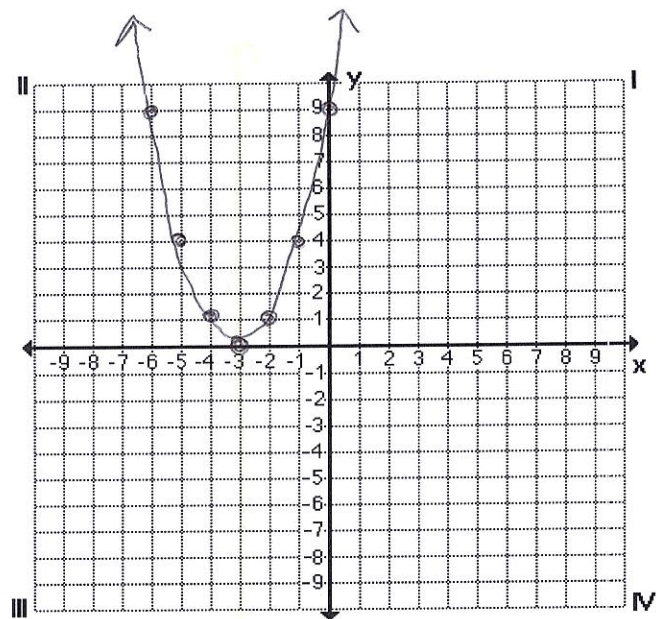
Vertical Translation: none

VETEX: $(-3, 0)$

Y-INT: $y = 9$

ZERO(S): $x = -3$

AXIS OF SYMMETRY: $x = -3$



6. NEW FUNCTION: $f(x) = -x^2 - 6$

Horizontal Translation: none

Reflection: yes

Vertical Translation: shift down 6

VETEX: $(0, -6)$

Y-INT: $y = -6$

ZERO(S): none

AXIS OF SYMMETRY: $x = 0$

