

FUNC.e

Date _____ Period _____

FUNC.e.1

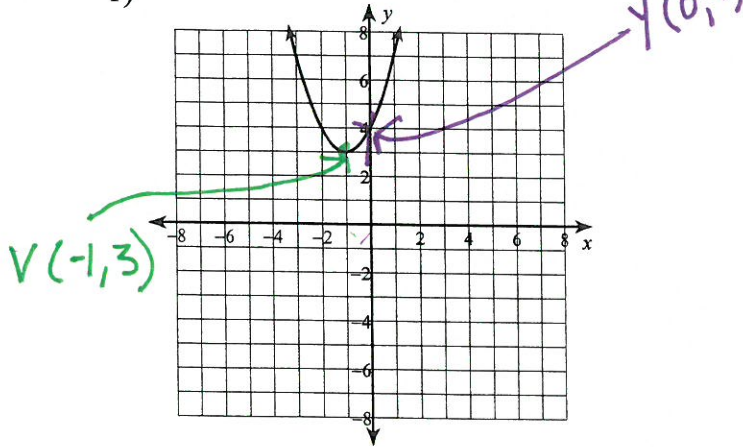
For each quadratic function -

(a) Clearly label features in the white space outside of the graph.

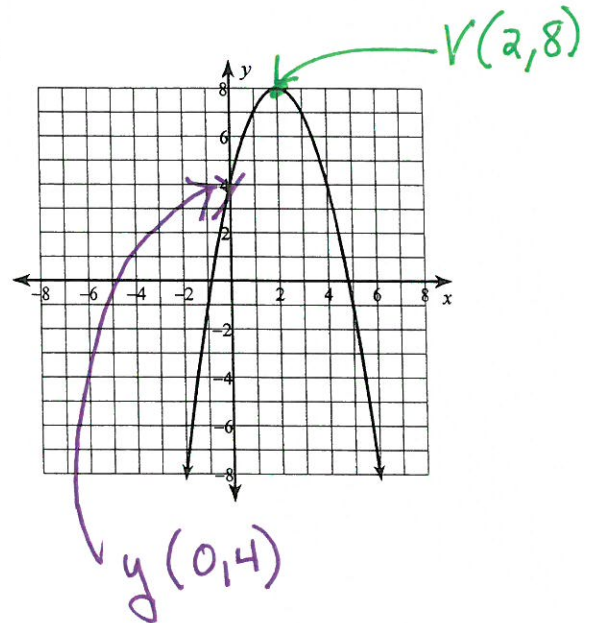
(b) Use an arrow to mark the vertex with a "V" and give its ordered pair; and (green)

(c) Use an arrow to mark the y-intercept with a "Y" and give its ordered pair. (purple)

1)



2)



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FFUNC.e.2

For each quadratic function, clearly answer the following questions:

- (a) Identify the coefficients of the quadratic function. Label "A, B, C" (red)
(b) Determine the direction of the parabola and explain. Label "SHAPE:" (purple)
(c) Identify the ordered pair for the y-intercept and explain. Label "Y-INT:" (green)

1) $f(x) = x^2 + 4x + 8$

a) $A=1$ $B=4$ $C=8$

b) SHAPE: opens up because
A is positive ($A=1$)c) YINT: $(0, 8)$ because $C=8$

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FUNC.e.3

Graph the quadratic function in standard form and identify the y-intercept, axis of symmetry, and vertex.

For the following function:

(a) Clearly graph at least 5 points and provide the supporting table of values in the space provided below. Mark the vertex on the table.

(b) Give the ordered pair for the y-intercept: (0, 5). If possible, mark it on the graph with a "Y".

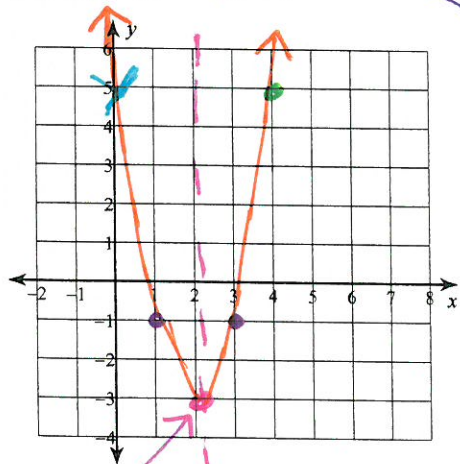
(c) Calculate the axis of symmetry and give the appropriate equation. Mark it "AS" on the graph.

SHOW WORK HERE:

$$\underline{\text{AS}}: x = \frac{-B}{2A} = \frac{8}{2(2)} = \frac{8}{4} = 2 \quad \boxed{x=2}$$

(d) Give the ordered pair for the vertex (2, -3). Mark it "V" on the graph.

1) $f(x) = 2x^2 - 8x + 5$



$$A = 2$$

$$B = -8$$

$$C = 5$$

↑ y-int (0, 5)

| x | y |
|---|----|
| 0 | 5 |
| 1 | -1 |
| 2 | -3 |
| 3 | -1 |
| 4 | 5 |

mental work

$$y = 2(2)^2 - 8(2) + 5 = -3$$

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FUNC.e.4

Solve the quadratic function by graphing.

For the following function:

(a) Clearly graph at least 5 points and provide the supporting table of values in the space provided below. Mark the vertex on the table.

(b) Give the ordered pair for the y-intercept: (0, -3). If possible, mark it on the graph with a "Y".

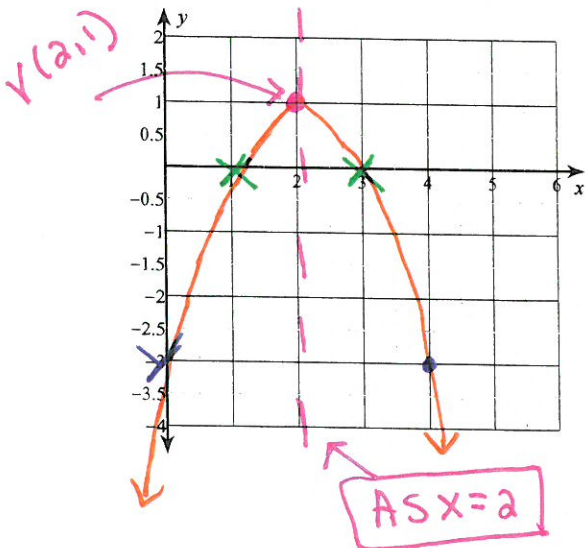
(c) Calculate the axis of symmetry and give the appropriate equation. Mark it "AS" on the graph.

SHOW WORK HERE:

$$\text{AS: } x = \frac{-B}{2A} = \frac{-4}{2(-1)} = \frac{-4}{-2} \quad \boxed{x=2}$$

(d) Give the ordered pair for the vertex (2, 1). Mark it "V" on the graph.(e) Give the ordered pair(s) for the x-intercept(s) (1, 0); (3, 0). Mark them with X's on the graph.(f) Solve the quadratic function. The solutions are x = 1, 3.

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



$$A = -1$$

$$B = 4$$

$$C = -3$$

↑
y-int

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