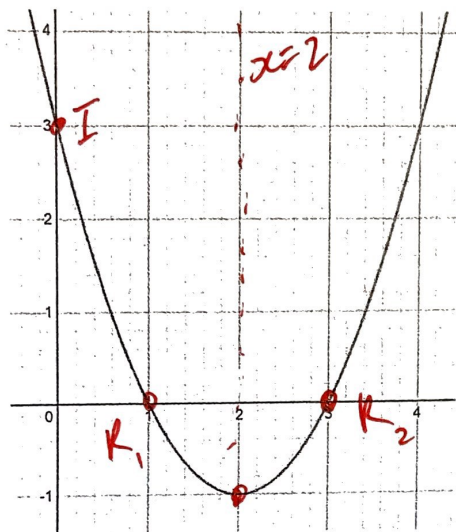


Name: _____ Class: _____

11.15 Quadratic Equations Quiz

May 18, 2022

1. For the quadratic function below:



Mark and label with coordinates:

- i. The vertex $V = (2, -1)$
- ii. The x-intercepts (also called roots) $R_1 = (1, 0)$
 $R_2 = (3, 0)$
- iii. Draw the axis of symmetry – and write down its equation
- iv. The y-intercept $I = (0, 3)$

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11.15 Quadratic Equations Quiz

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2. Here is a quadratic function: $y = x^2 + 4x + 1$ It allows you to calculate the value of y for any value of x .

Complete the following table of values:

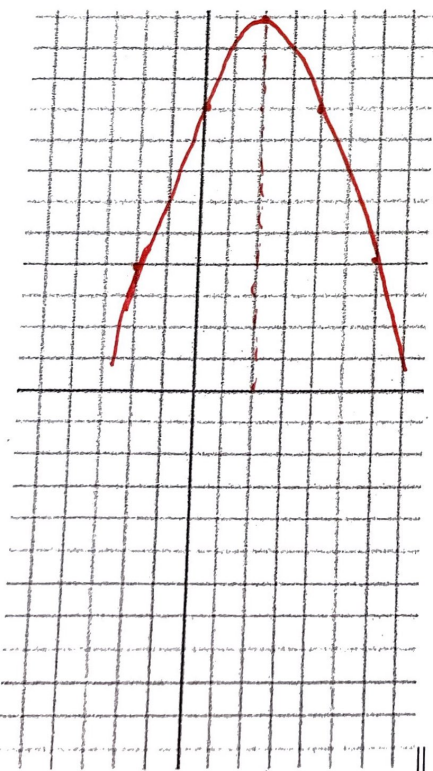
x	y
0	1
-1	-2
-2	-3
-4	1
-6	13

$$\begin{array}{rcl}
 x^2 + 4x + 1 & & \\
 = 0 & 0 & 1 \\
 = 1 & -4 & 1 \\
 = 4 & -8 & 1 \\
 = 16 & -16 & 1 \\
 = 36 & -24 & 1 \\
 \hline
 x = -2 & &
 \end{array}$$

Write down the axis of symmetry.

[Hint: the axis of symmetry is the x -value where the y -values are the same on either side]

3. Here is a table of values for a quadratic function. Plot the points and draw the curve.



x	y
-2	4
0	9
2	12
4	9
6	4

Draw the axis of symmetry on the grid, and write down its equation below.

$$x = 2$$

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11.15 Quadratic Equations Quiz

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4. The standard form of a quadratic equation is:

$$y = ax^2 + bx + c$$

Write down a , b and c for the following equation:

$$y = 5x^2 - 7x - 3$$

- i. $a = 5$
- ii. $b = -7$
- iii. $c = -3$

5. For the following quadratic

$$y = 2x^2 - 8x + 5$$

$$\begin{aligned} a &= 2 \\ b &= -8 \\ c &= 5 \end{aligned}$$

- i. Write down the values for a , b and c .

Using those values for a , b and c , substitute and simplify the following expressions:

- ii. $\frac{b}{2a}$ $\frac{-8}{2(2)} = \frac{-8}{4} = -2$

- iii. $b^2 - 4ac$

$$\begin{aligned} &(-8)^2 - (4 \cdot 2 \cdot 5) \\ &= 64 - 40 \\ &= 24 \end{aligned}$$