

Unit 6 Review

1. Determine if the following equations are linear, quadratic or neither. Also, circle ALL non-linear equations.

a) $y = 2x^2 + 3x$ _____

b) $y = \frac{1}{2}x + 3$ _____

b) $y = x^4 - 3x^2$ _____

c) $y = x - 1$ _____

d) $y = (x + 4)(x - 2)$ _____

e) $y = 4x^3 + 7x$ _____

2. Use finite differences to determine whether each of the following are linear, quadratic or neither.

x	y
0	1
1	3
2	7
3	13
4	21

x	y
0	2
1	6
2	8
3	12
4	14

3. Determine the x-intercepts for the following quadratic functions.

a) $y = (x - 4)(x + 2)$

b) $y = (x + 5)(x + 3)$

c) $y = x^2 + 4x + 4$

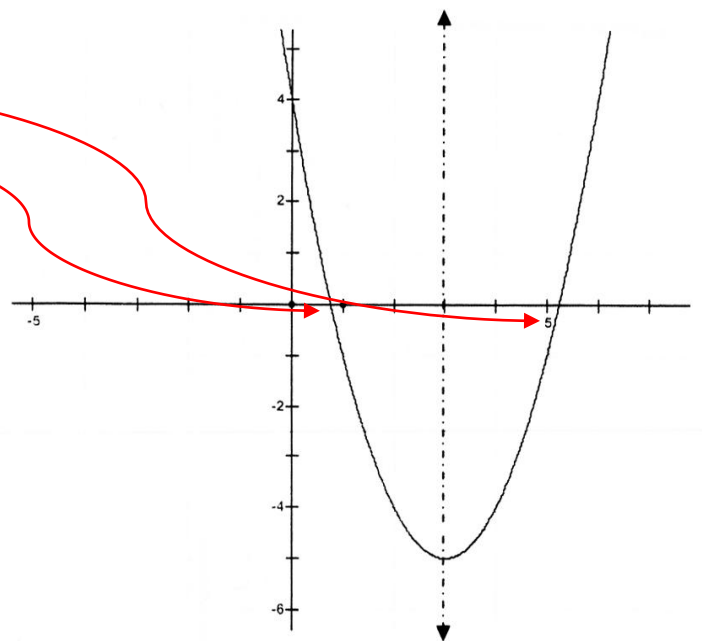
d) $y = x^2 + 15x + 56$

e) $y = x^2 - 10x + 21$

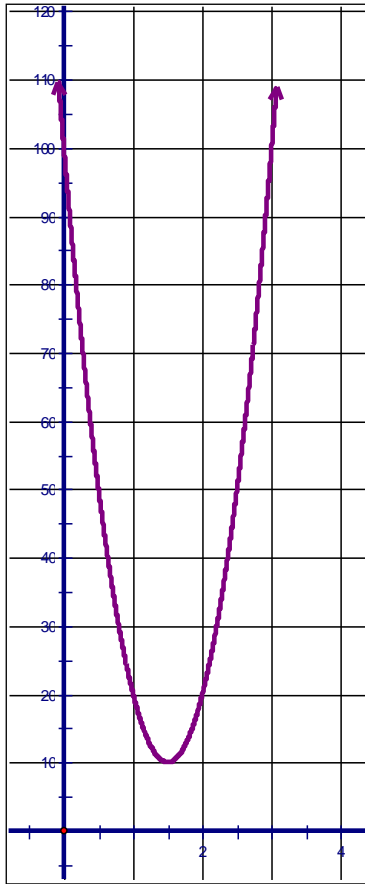
f) $y = x^2 - 3x - 4$

4. Label and determine the indicated parts of the graph.

- a) These points are called the _____
- b) The graph of a quadratic function is called a _____
- c) The coordinates of the vertex are _____
- d) The axis of symmetry has equation _____
- e) The vertex has a (maximum/minimum) value of _____



5.



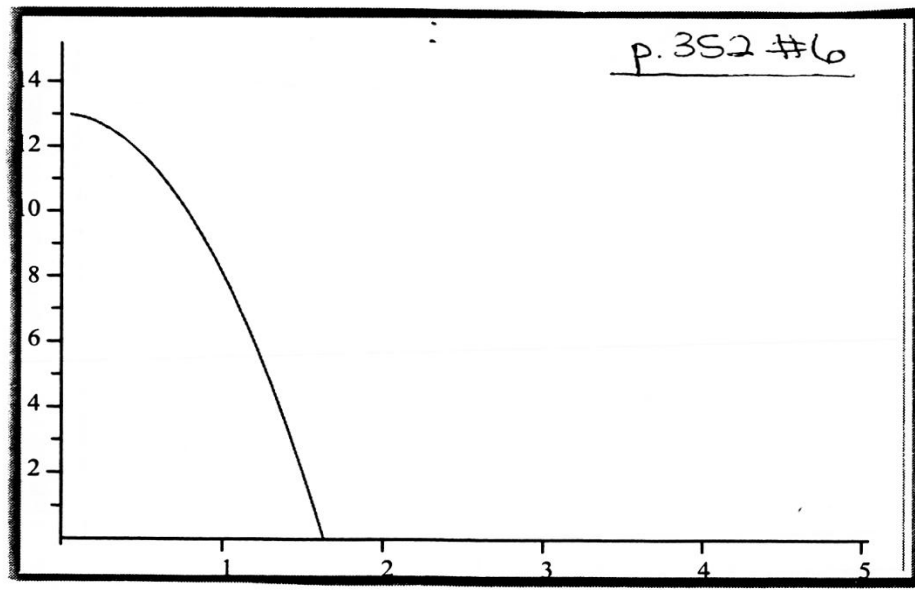
Abdul is playing with a yo-yo while his brother Amin is measuring the height of the yo-yo. The graph represents the data that Amin collected. The x-axis represents the time after Abdul threw the yo-yo. The y-axis represents the height of the yo-yo.

Interpret the key features of the graph:

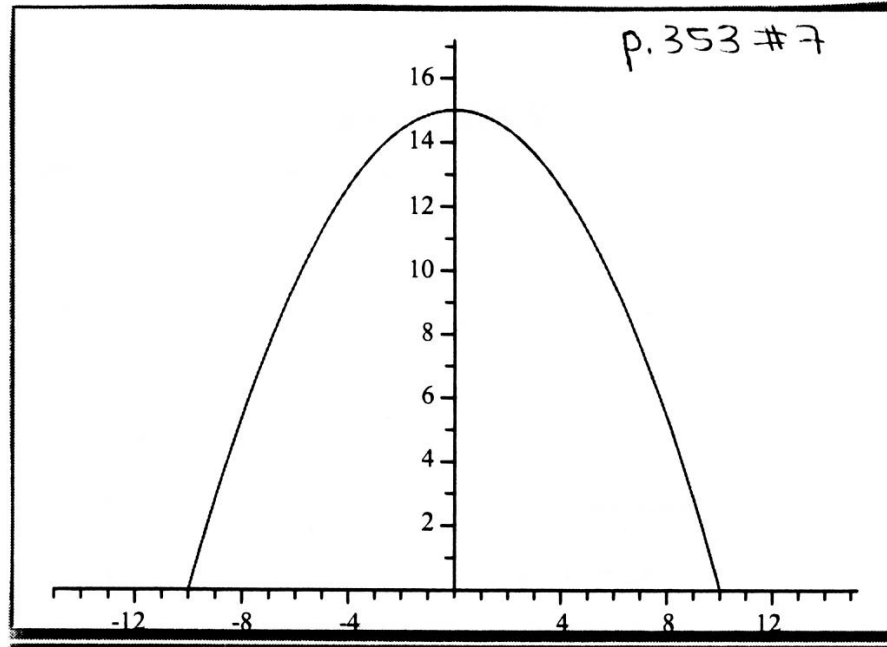
What does the vertex represent in the context of this problem?

What does the y-intercept represent in the context of this problem?

6.



7.



8.

