Algebra 1 Homework – 8-1 and 8-2

Name:_____ **Date:**_____ **Block:**_____

Tell whether each function is quadratic. Explain.

1) (0, 6), (1, 12), (2, 20), (3, 30)

2)

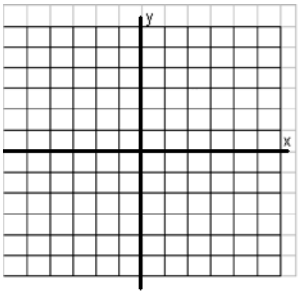
x	1	2	3	4	5
y	0	3	8	15	24

3) $3x + 2y = 8$

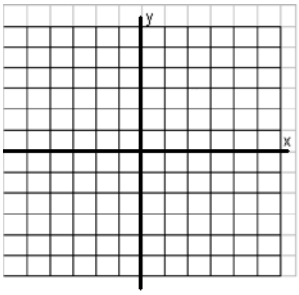
4) $y + 5 = 2x^2$

Use a table of values to graph each quadratic function.

5) $y = -\frac{1}{2}x^2$



6) $y = 2x^2 - 3$



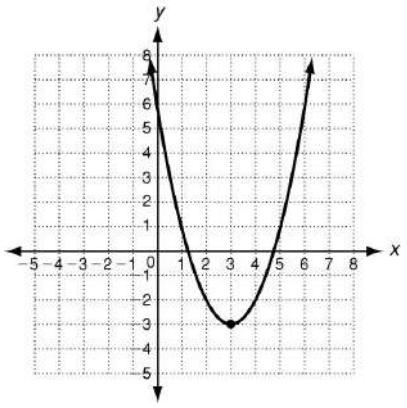
Tell whether the graph of each quadratic function opens upward or downward. Explain.

7) $-x^2 + y = 8$

8) $y - x = 4x^2 - 8$

For each parabola, a) identify the vertex; b) give the minimum or maximum value of the function; c) find the domain and range.

9)



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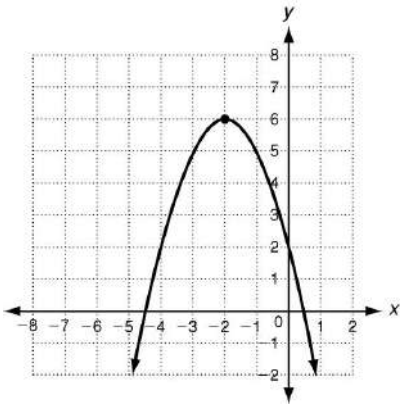
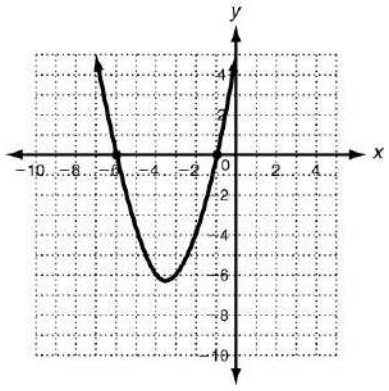


11) A superhero is trying to leap over a tall building. The function $f(x) = -16x^2 + 200x$ gives the superhero's height in feet as a function of time. The building is 612 feet high. Will the superhero make it over the building? Explain.

Find the zeros and axis of symmetry of each quadratic function from its graph.

12)



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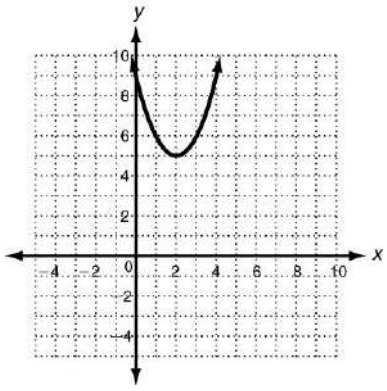
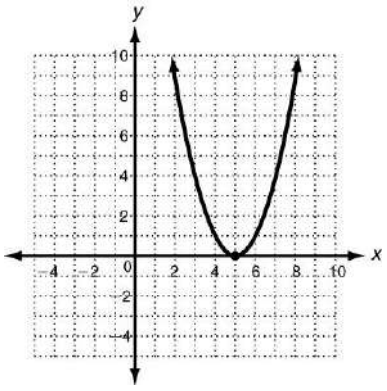


14)



Find the vertex of each parabola.

15) $y = x^2 + 2x - 35$

16) $y = x^2 - 10x + 40$

17) $y = 3x^2 + 12x - 10$

18) $y = 2x^2 - 8x - 3$

19) $y = -2x^2 - 8x + 7$

20) $y = 6x^2 + 18x + 5$