Quadratic Functions **Name:** _____

1. Find the vertex of $g(x) = 3(x - 5)^2 + 7$. Does f open up or down?

1. _____

2. What is the range of g?

2. _____

3. Find the vertex of $g(x) = -2(x + 8)^2 - 4$. Does f open up or down?

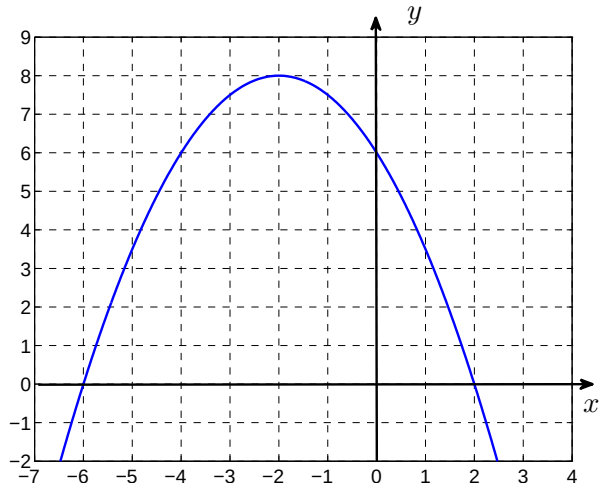
3. _____

4. What is the range of g?

4. _____

The graph of a quadratic function f is given. Find the coordinates of the vertex. Find the maximum or minimum of f. Find the intervals on which the function is increasing and on which the function is decreasing. Find the domain and range of f.

5. $f(x) = -\frac{1}{2}x^2 - 2x + 6$



Express the quadratic function in standard (vertex) form.

6. $g(x) = x^2 + 8x - 7$

7. $g(x) = x^2 + 10x - 4$

8. $g(x) = x^2 + 3x - 6$

9. $g(x) = 2x^2 + 3x - 7$

A quadratic function is given. Express the quadratic function in standard form. Find its vertex and its $x-$ and y- intercept(x). Sketch its graph. Then identify the vertex, axis of symmetry, domain and range.

10. $C(x) = -x^2 - 4x + 4$

11. $h(x) = 2x^2 + 4x - 5$