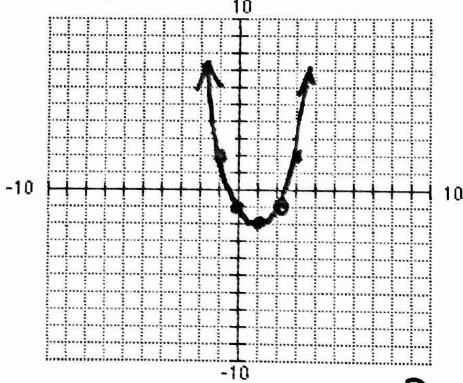


Day 05 Graphing Quadratic Functions Homework

Name Master E
Date _____ Block _____

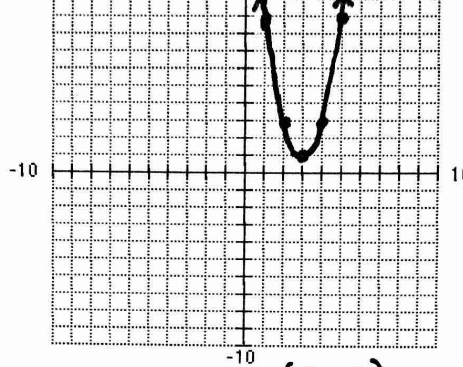
1-12: Graph each function with at least 5 points. Then state the vertex, axis of symmetry, and the domain and range in interval notation.

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



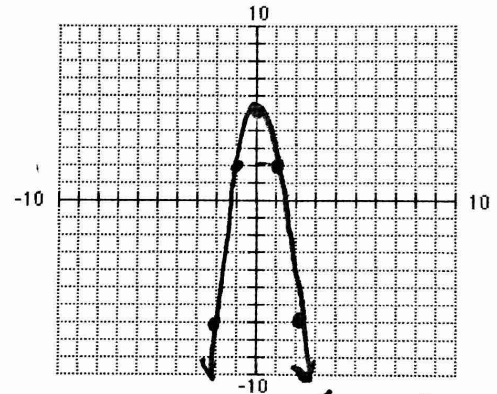
Vertex: (1, -2)
Axis of Symmetry: $x = 1$
Domain: $(-\infty, \infty)$
Range: $[-2, \infty)$

2. $y = 2x^2 - 12x + 19$ $x = \frac{12}{4} = 3$
 $y = 2(9) - 12(3) + 19$
 $18 - 36 + 19$



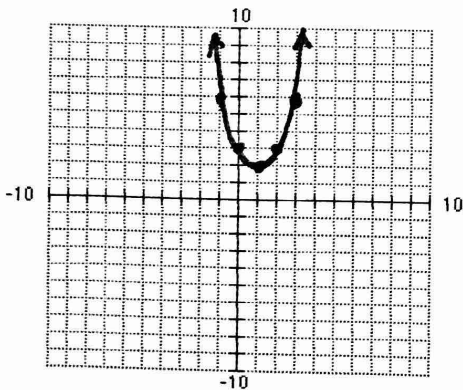
Vertex: (3, 1)
Axis of Symmetry: $x = 3$
Domain: $(-\infty, \infty)$
Range: $[1, \infty)$

3. $y = -3x^2 + 5$ *already in vertex form*



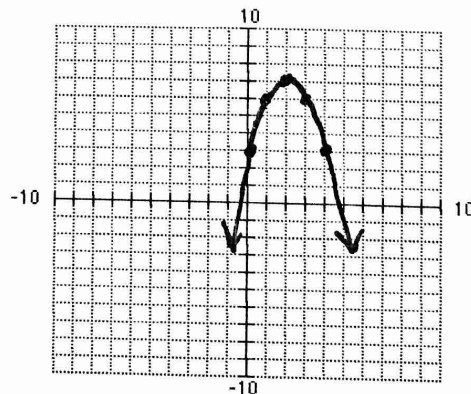
Vertex: (0, 5)
Axis of Symmetry: $x = 0$
Domain: $(-\infty, \infty)$
Range: $(-\infty, 5]$

4. $y = (x - 1)^2 + 2$



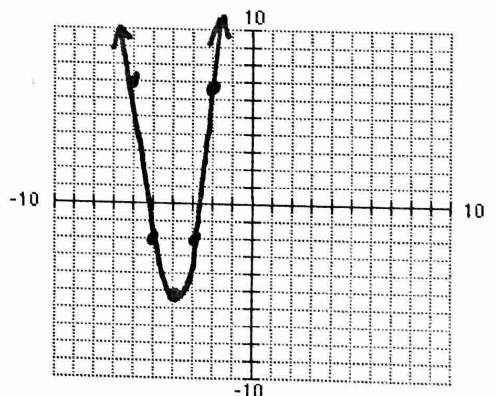
Vertex: (1, 2)
Axis of Symmetry: $x = 1$
Domain: $(-\infty, \infty)$
Range: $[2, \infty)$

5. $y = -(x - 2)^2 + 7$



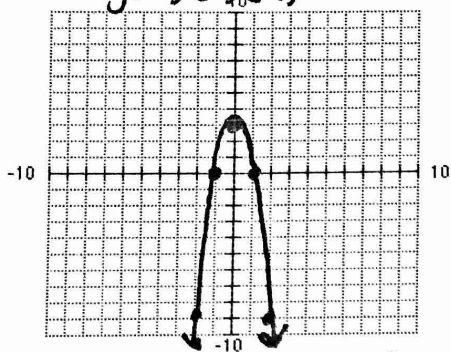
Vertex: (2, 7)
Axis of Symmetry: $x = 2$
Domain: $(-\infty, \infty)$
Range: $(-\infty, 7]$

6. $y = 3(x + 4)^2 - 5$



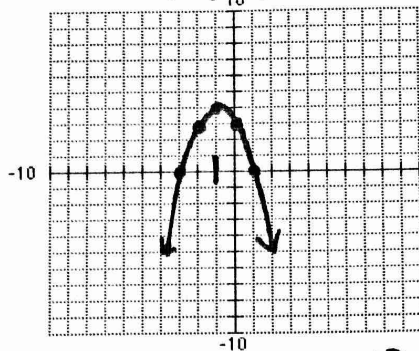
Vertex: (-4, -5)
Axis of Symmetry: $x = -4$
Domain: $(-\infty, \infty)$
Range: $[-5, \infty)$

7. $y = -3(x+1)(x-1)$
 $y = -3(1)(-1)$



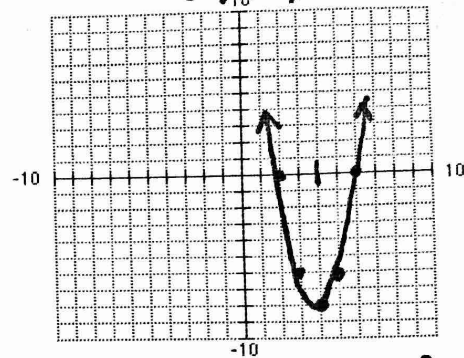
Vertex: (0, 3)
 Axis of Symmetry: $x = 0$
 Domain: $(-\infty, \infty)$
 Range: $(-\infty, 3]$

8. $y = -(x-1)(x+3)$
 $-1(-2)(2)$



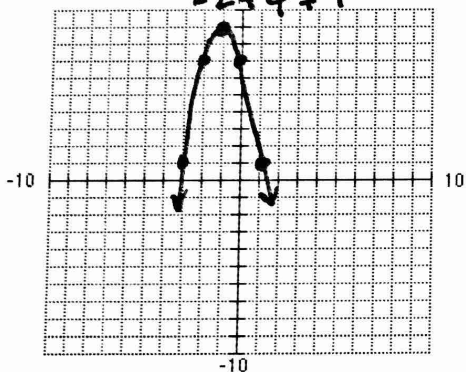
Vertex: (-1, 4)
 Axis of Symmetry: $x = -1$
 Domain: $(-\infty, \infty)$
 Range: $(-\infty, 4]$

9. $y = 2(x-2)(x-6)$
 $2(2)(-2)$



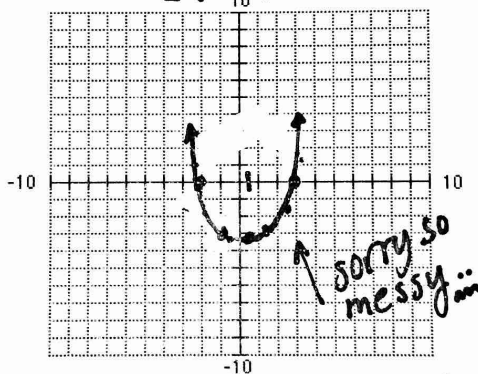
Vertex: (4, -8)
 Axis of Symmetry: $x = 4$
 Domain: $(-\infty, \infty)$
 Range: $[-8, \infty)$

10. $y = -2x^2 - 4x + 7$ $x = \frac{4}{-4} = -1$
 $y = -2(1) - 4(-1) + 7$
 $-2 + 4 + 7$



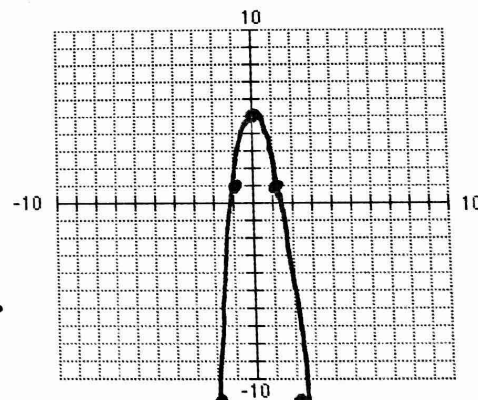
Vertex: (-1, 9)
 Axis of Symmetry: $x = -1$
 Domain: $(-\infty, \infty)$
 Range: $(-\infty, 9]$

11. $y = \frac{1}{2}(x-3)(x+2)$
 $\frac{1}{2}(-2.5)(2.5)$



Vertex: (5, -3.125)
 Axis of Symmetry: $x = 5$
 Domain: $(-\infty, \infty)$
 Range: $[-3.125, \infty)$

12. $y = -4x^2 + 5$ *already in vertex form*



Vertex: (0, 5)
 Axis of Symmetry: $x = 0$
 Domain: $(-\infty, \infty)$
 Range: $(-\infty, 5]$

13-15: Write the equation of the square function that fits the given description.

13. I have a vertical compression of $\frac{2}{3}$ and my zeros are -2 and 5. $f(x) = \frac{2}{3}(x+2)(x-5)$

14. My vertex is (-1, 8) and I reflect over the x-axis. $f(x) = -(x+1)^2 + 8$

15. My axis of symmetry is $x = 4$, my minimum y value is -10 and I have a vertical stretch of 4. $f(x) = 4(x-4)^2 - 10$
 $v(4, -10)$