

Math 2 Unit 10 Worksheet 7
Intercept Form

Name: _____
Date: _____ **Per:** _____

Vertex Form
 $y = a(x - h)^2 + k$

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

Intercept Form
 $y = a(x - p)(x - q)$

[1-6] The following quadratic functions are written in intercept form. Find the x-intercepts for each. Write your answers as ordered pairs.

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

2. $y = 3(x + 6)(x + 2)$

3. $y = -\frac{1}{2}(x - 3)(x - 6)$

4. $y = 2(x - 5)(x - 5)$

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

6. $y = \frac{2}{5}(x + 7)(x - 5)$

[7-12] For the same set of quadratic functions, find the y-intercept. Write your answer as an ordered pair.

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

8. $y = 3(x + 6)(x + 2)$

9. $y = -\frac{1}{2}(x - 3)(x - 6)$

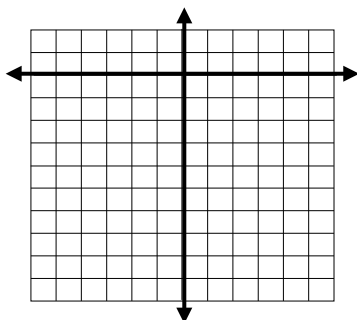
10. $y = 2(x - 5)(x - 5)$

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

12. $y = \frac{2}{5}(x + 7)(x - 5)$

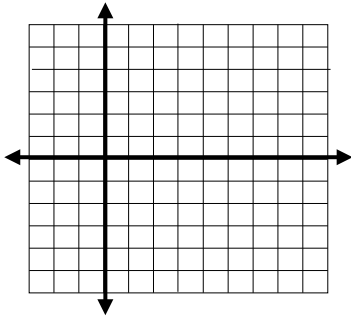
[13-15] For each question, factor, sketch, state the x-intercept, axis of symmetry, vertex, and the y-intercept.

13. Factor and sketch the graph of $y = x^2 + 2x - 8$, and state:



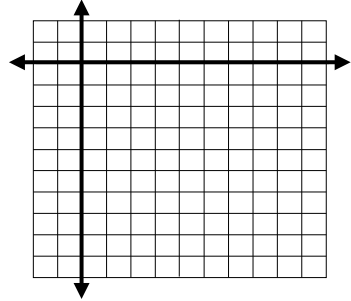
- a. x-intercepts (____, ____) and (____, ____)
- b. Axis of Symmetry _____
- c. Vertex (____, ____)
- d. y-intercept _____

14. Factor and sketch the graph of $y = x^2 - 6x + 5$, and state:



- a. x -intercepts (____, ____) and (____, ____)
- b. Axis of Symmetry _____
- c. Vertex (____, ____)
- d. y -intercept _____

15. Factor and sketch the graph of $y = x^2 - 8x + 7$, and state:



- a. x -intercepts (____, ____) and (____, ____)
- b. Axis of Symmetry _____
- c. Vertex (____, ____)
- d. y -intercept _____

[16-18] Given the quadratic equation $y = 2(x + 1)^2 - 8$ in vertex form, complete the table below.

Vertex Form $y = a(x - h)^2 + k$

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

Intercept Form $y = a(x - p)(x - q)$

Vertex Form:	Standard Form:	Intercept Form:
16. Find an equivalent version of the equation in standard form and intercept form. Show work for each.		
$y = 2(x + 1)^2 - 8$		
17. Find the x -intercepts for each form. Show work for each.		
18. Find the y -intercepts for each form. Show work for each.		

19. Which form would you rather use to find:

- a. x -intercepts? _____
- b. y -intercept? _____
- c. vertex? _____