

## Lesson 12.8 Homework

### Graphing Parabolas

For each function:

- Indicate whether the parabola opens up or down
- Find the roots (factor the function, set factors equal to zero, solve for x)
- Find the x-coordinate of the vertex ( $\frac{1}{2}$  way between the roots)
- Find the y-coordinate of the vertex (plug the answer for part c into the function)
- Determine the y-intercept (it's the last number of the function)
- Graph on graph paper.

1.  $f(x) = x^2 - 2x - 8$

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

3.  $f(x) = 4x^2 - 16x + 7$

4.  $f(x) = x^2 - 2x - 8$

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

6.  $f(x) = 3x^2 - 12x + 9$