

## Quadratics Exam Review

**Solve:**

1.  $x^2 - 4x - 12 = 0$

2.  $3x^2 + 4x + 5 = 0$

3.  $x^2 - 5x + 2 = 0$

4.  $-3(x + 2)^2 + 12 = 0$

5.  $2x^2 - 6x + 7 = 0$

**Write the equation of a circle in standard form, name the center and radius.**

9.  $x^2 + 6x + y^2 - 4y - 3 = 0$

10.  $2x^2 - 16x + 2y^2 + 4y - 38 = 0$

**Find the Focus and Directrix.**

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

12.  $(y + 4)^2 = 12(x + 1)$

**Divide**

6.

$$2x - 3 \overline{) 2x^4 - 9x^3 + 21x^2 - 26x + 12}$$

7.

$$x - 2 \overline{) 2x^4 - 1x^3 - 7x^2 - 3x + 10}$$

8. Is  $x - 2$  a factor of  $x^3 + 2x^2 - 5x - 6$ ?  
If it is, what are all the zeros for the function?

**Write the equation of the parabola.**

13. Focus: (3, -2) Directrix:  $y = -8$

14. Focus: (-4, 3) Directrix:  $x = -6$

**Simplify:**

15.  $(2 + i)(3 - 2i)$

16.  $(4 + i)^2 + (5 + 3i)$