PARABOLAS

Sketch the graph; state the coordinate of the focus and the equation of the directrix.

1. $x = y^2 - 4y + 3$

2. $x = y^2 + 2y - 3$

3. $x = -3y^2 - 12y - 5$

4. $x = \frac{1}{4}y^2 - y + 4$

5. $y = -4x^2 + 20x - 20$

6. $y = \frac{1}{5}x^2 + 2x - \frac{11}{5}$

Write the equation of a parabola with vertex (0, 0) and the following conditions:

7. focus $(-7, 0)$

8. directrix: $y = 5$

Write the equation of a parabola with vertex (1, 1) and the following conditions:

9. focus $(1, 2)$

10. directrix: $x = \frac{3}{2}$