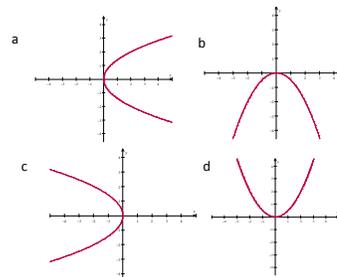The Parabola

1. Find the focus and directrix of each parabola with the given equation. Then match each equation to one of the graphs that are shown
(similar to p.660 #4)

$$y^2 = -2x$$

a   b

c   d

2. Find the focus and directrix of the parabola with the given equation
(similar to p.660 #10)

$$x^2 = -8y$$

3. Find the focus and directrix of the parabola with the given equation
(similar to p.660 #16)

$$4y^2 + 2x = 0$$

4. Find the standard form of the equation of each parabola satisfying the given conditions
(similar to p.661 #18)

$$Focus: (6,0); Directrix: x = -6$$

5. Find the standard form of the equation of each parabola satisfying the given conditions
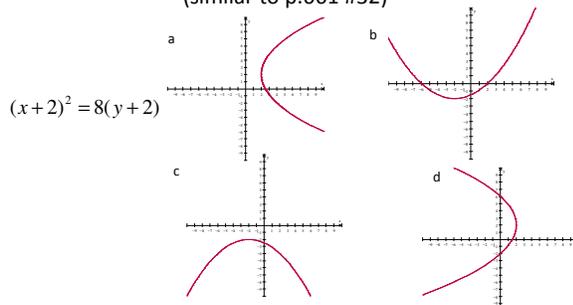(similar to p.661 #22)

$$Focus: (0,12); Directrix: y = -12$$

6. Find the standard form of the equation of each parabola satisfying the given conditions
(similar to p.661 #26)

$$Vertex:(4,-3); Focus:(7,-3)$$

7. Find the standard form of the equation of each parabola satisfying the given conditions
(similar to p.661 #30)

$$Focus:(5,-2); Directrix: y=-7$$

8. Find the vertex, focus and directrix of each parabola with the given equation. Then match each equation to one of the graphs that are shown
(similar to p.661 #32)

$$(x+2)^2=8(y+2)$$

a

b

c

d

9. Find the vertex, focus, and directrix of each parabola with the given equation. Then graph the parabola
(similar to p.661 #40)

$$(y+2)^2=-12(x-3)$$

10. Convert each equation to standard form by completing the square on x or y. Then find the vertex, focus, and directrix of the parabola. Finally, graph the parabola
(similar to p.661 #46)

$$y^2-4y-12x+64=0$$

11. Convert each equation to standard form by completing the square on x or y. Then find the vertex, focus, and directrix of the parabola. Finally, graph the parabola
(similar to p.661 #48)

$$x^2-12x-12y+60=0$$