Name_____ Date _____

3.6　Practice B

In Exercises 1–6, use the Distance Formula to write an equation of the parabola.
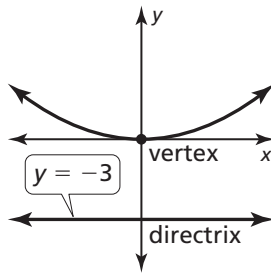
1. focus: $(0, 5)$

directrix: $y = -5$

2. focus: $(0, -6)$

directrix: $y = 6$

3. focus: $(0, 4)$

directrix: $y = -4$

4. vertex: $(0, 0)$

directrix: $y = 8$

5. vertex: $(0, 0)$

focus: $(0, -7)$

6. vertex: $(0, 0)$

directrix: $y = -2$

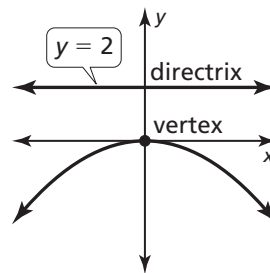**In Exercises 7–12, identify the focus, directrix, and axis of symmetry of the parabola. Graph the equation.**

7. $y = -\frac{1}{32}x^2$

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

9. $y^2 = 12x$

10. $-x^2 = 36y$

11. $8x^2 + 2y = 0$

12. $2x^2 - y = 0$

In Exercises 13 and 14, write an equation of the parabola shown.

13.

14.

In Exercises 15–20, write an equation of the parabola with the given characteristics.

15. focus: $\left(0, -\frac{1}{4}\right)$

directrix: $y = \frac{1}{4}$

16. focus: $(-12, 0)$

directrix: $x = 12$

17. focus: $\left(\frac{3}{5}, 0\right)$

directrix: $x = -\frac{3}{5}$

18. vertex: $(0, 0)$

directrix: $y = \frac{2}{3}$

19. vertex: $(0, 0)$

focus: $\left(-\frac{3}{4}, 0\right)$

20. vertex: $(0, 0)$

directrix: $x = -\frac{1}{3}$

In Exercises 21–24, identify the vertex, focus, directrix, and axis of symmetry of the parabola. Describe the transformations of the graph of the standard equation with $p = 1$ and vertex $(0, 0)$.

21. $x = -\frac{1}{16}(y - 2)^2 - 3$

22. $y = 8(x + 2)^2 - 1$

23. $x = 5(y + 3)^2 + 6$

24. $y = -\frac{1}{32}(x + 1)^2 + 9$