**12-1A Lesson Master**  
Questions on SPUR Objectives  

**SKILLS** Objective B  
In 1 and 2, write an equation for the parabola with the given focus and directrix.

1. focus (0, 6); directrix \( y = -6 \)  
2. focus \((0, \frac{-1}{2})\); directrix \( y = \frac{1}{2} \)

**PROPERTIES** Objective E  
In 3 and 4, the equation of a parabola is given. Find the coordinates of the focus and vertex and an equation for the directrix.

3. \( y = \frac{1}{20} x^2 \)
   - focus:  
   - vertex:  
   - directrix: 

4. \( y - 3 = 2(x + 5)^2 \)
   - focus:  
   - vertex:  
   - directrix: 

5. The point \((2, \frac{1}{3})\) is on the parabola \( y = \frac{1}{12} x^2 \). Find the distance from \((2, \frac{1}{3})\) to
   a. the point \((0, 3)\).  
   b. the line \( y = -3 \).

**PROPERTIES** Objective F  
In 6–8, determine whether the figure described is a parabola.

6. The set of all points equidistant from \( y = 5 \) and \((4, 4)\).  

7. The set of all points equidistant from \((0, 0)\) and \((2, -3)\).  

8. The set of all points equidistant from \( y = \frac{1}{2} x + 3 \) and \((2, 7)\).

**REPRESENTATIONS** Objective L  
In 9 and 10, sketch the parabola with the given focus and directrix.

9. focus \((-1, 2)\), directrix \( y = 4 \)

10. focus \((-1, 2)\), directrix \( y = 4 \)

---

568  Advanced Algebra