Name

12-1A Lesson Master

Questions on SPUR Objectives
See Student Edition pages 862–865 for 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 $(4, 4)$. _____

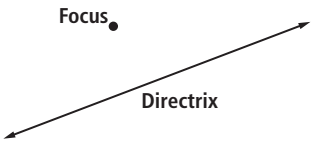
7. The set of all points equidistant from $(0, 0)$ and $(2, -3)$. _____

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.



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