Name

12-6B Lesson Master

Questions on SPUR Objectives
See Student Edition pages 862–865 for objectives.

SKILLS Objective B

In 1–3, write an equation for a hyperbola satisfying the given conditions.

1. The foci are (–4, 0), and (4, 0) and the focal constant is 6. _____

2. The vertices are (–5, 0) and (5, 0) and the foci are (–12, 0) and (12, 0). _____

3. The vertices are $(\sqrt{6}, 0)$ and $(-\sqrt{6}, 0)$ and the point (6, 4) is on the hyperbola. _____

PROPERTIES Objective E

In 4–9, an equation for a hyperbola is given. Name a. its vertices, b. its asymptotes, and c. its foci.

4. $\frac{x^2}{36} - \frac{y^2}{16} = 1$

a. _____

b. _____

c. _____

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

a. _____

b. _____

c. _____

6. $\frac{x^2}{12^2} - \frac{y^2}{5^2} = 1$

a. _____

b. _____

c. _____

7. $\frac{x^2}{10} - y^2 = 1$

a. _____

b. _____

c. _____

8. $\frac{x^2}{3^2} - \frac{y^2}{9^2} = 1$

a. _____

b. _____

c. _____

9. $\frac{x^2}{49} - \frac{y^2}{4} = 1$

a. _____

b. _____

c. _____

PROPERTIES Objective F

True or False In 10–12, you are given points *G* and *H* and a line ℓ. Determine if the statement is true or false, and if false, name the figure correctly.

10. The set of all points *P*, where $PG + PH$ is constant, is a hyperbola. _____

11. The set of all points *P*, where $PG - PH$ is constant, is a hyperbola. _____

12. The set of all points *P*, where the distance from *P* to ℓ is equal to the distance *PG*, is a hyperbola. _____

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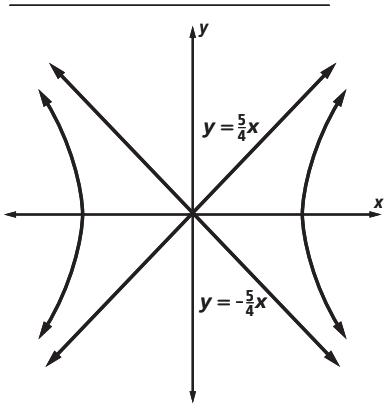
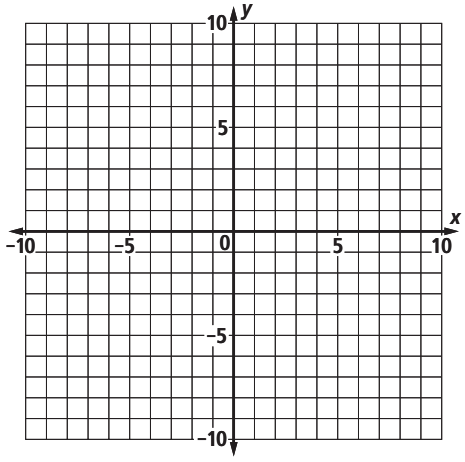
REPRESENTATIONS Objective I

13. Write an equation for the hyperbola graphed below.



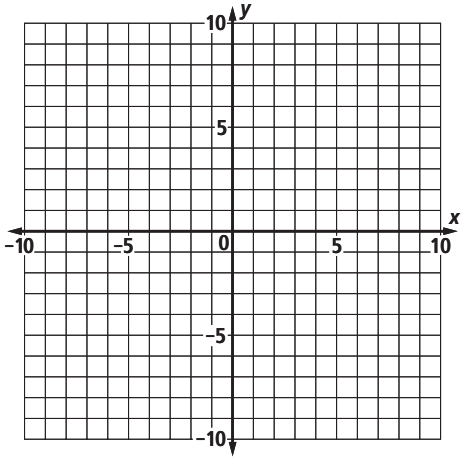
14. Graph the hyperbola $\frac{x^2}{25} - \frac{y^2}{9} = 1$ below. Label the vertices and asymptotes on your graph.



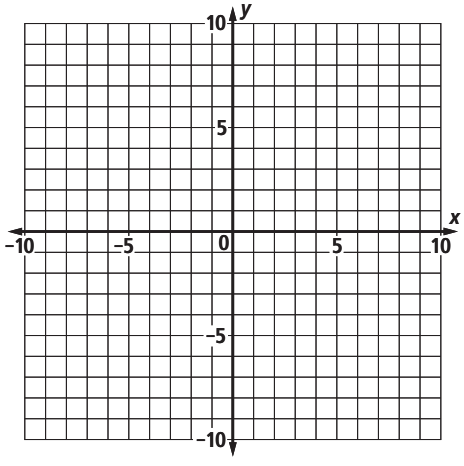
REPRESENTATIONS Objective L

In 15 and 16, graph the hyperbola described and its asymptotes below each question.

15. The vertices are (3, 0) and (-3, 0) and the asymptotes are $y = \pm\frac{4}{3}x$.



16. The focal constant is 10 and the foci are (7, 0) and (-7, 0).



REVIEW Lesson 1-6, Objective C

In 17–19, solve the given equation.

17. $4m + 12 = 9m + 67$. _____

18. $\frac{15}{a} = 4$. _____

19. $0.45u + 0.6(4u) - 3.5(7u - 5.5) = -(20u + 22)$ _____