

**Practice 10-5****Hyperbolas**

Find the foci of each hyperbola. Then draw the graph.

1.  $\frac{x^2}{4} - \frac{y^2}{4} = 1$
2.  $\frac{y^2}{9} - \frac{x^2}{25} = 1$
3.  $\frac{x^2}{49} - \frac{y^2}{36} = 1$
4.  $4y^2 - 36x^2 = 144$
5.  $x^2 - 9y^2 = 9$
6.  $16x^2 - y^2 = 64$
7.  $9y^2 - 16x^2 = 144$
8.  $4x^2 - 9y^2 = 36$
9.  $121y^2 - 4x^2 = 121$
10.  $\frac{y^2}{16} - \frac{x^2}{9} = 1$
11.  $\frac{x^2}{64} - \frac{y^2}{9} = 1$
12.  $\frac{y^2}{100} - \frac{x^2}{4} = 1$
13.  $25y^2 - 4x^2 = 100$
14.  $49y^2 - x^2 = 49$
15.  $4x^2 - 100y^2 = 100$
16.  $\frac{x^2}{25} - \frac{y^2}{4} = 1$
17.  $y^2 - \frac{x^2}{9} = 1$
18.  $\frac{y^2}{25} - \frac{x^2}{16} = 1$
19.  $\frac{y^2}{4} - \frac{x^2}{9} = 1$
20.  $x^2 - \frac{y^2}{16} = 1$
21.  $\frac{x^2}{4} - \frac{y^2}{16} = 1$
22.  $\frac{x^2}{36} - y^2 = 1$
23.  $\frac{x^2}{64} - \frac{y^2}{16} = 1$
24.  $y^2 - x^2 = 16$
25.  $y^2 - 4x^2 = 16$
26.  $4x^2 - 4y^2 = 100$
27.  $25x^2 - 4y^2 = 100$
28.  $16y^2 - 4x^2 = 80$
29.  $9y^2 - 4x^2 = 36$
30.  $4x^2 - 36y^2 = 36$
31.  $x^2 - 25y^2 = 25$
32.  $4x^2 - y^2 = 16$
33.  $9y^2 - 16x^2 = 225$
34.  $16y^2 - 9x^2 = 225$
35.  $4x^2 - 9y^2 = 36$
36.  $9x^2 - 4y^2 = 36$
37.  $\frac{y^2}{9} - x^2 = 1$
38.  $\frac{x^2}{9} - \frac{y^2}{16} = 1$
39.  $\frac{y^2}{4} - \frac{x^2}{16} = 1$
40.  $\frac{x^2}{25} - \frac{y^2}{16} = 1$
41.  $y^2 - \frac{x^2}{16} = 1$
42.  $\frac{x^2}{9} - \frac{y^2}{36} = 1$
43.  $4y^2 - 25x^2 = 100$
44.  $y^2 - 4x^2 = 16$
45.  $16x^2 - y^2 = 64$

Find the equation of a hyperbola with the given  $a$  and  $c$  values. Assume that the transverse axis is horizontal.

46.  $a = 432,356, c = 1,984,576$
47.  $a = 176,398, c = 1,984,576$
48.  $a = 7, c = 9$
49.  $a = 292,954, c = 365,987$
50.  $a = 5, c = 15$
51.  $a = 7654, c = 8675$
52.  $a = 67, c = 92$
53.  $a = 75, c = 180$
54.  $a = 8, c = 20$
55.  $a = 6, c = 9$
56.  $a = 6, c = 10$
57.  $a = 6, c = 8$
58.  $a = 1, c = 9$
59.  $a = 3, c = 7$
60.  $a = 8, c = 10$
61.  $a = 9, c = 12$