Name_____ Class_____ Date _____

8-2 Practice

Form G

The Reciprocal Function Family

Graph each function. Identify the *x*- and *y*-intercepts and the asymptotes of the graph. Also, state the domain and the range of the function.

1. $y = \frac{12}{x}$

3. $y = -\frac{4}{x}$

Use a graphing calculator to graph the equations $y = \frac{1}{x}$ and $y = \frac{a}{x}$ using the given value of *a*. Then identify the effect of *a* on the graph.

5. $a = -5$

Sketch the asymptotes and the graph of each function. Identify the domain and range.

7. $y = \frac{1}{x} + 3$

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

Write an equation for the translation of $y = -\frac{3}{x}$ that has the given asymptotes.

11. $x = 4; y = -2$

13. The length of a pipe in a panpipe ℓ (in feet) is inversely proportional to its pitch p (in hertz). The inverse variation is modeled by the equation $p = \frac{497}{\ell}$. Find the length required to produce a pitch of 220 Hz.

Write each equation in the form $y = \frac{k}{x}$.

15. $y = -\frac{7}{2x}$

Sketch the graph of each function.

17. $xy = 6$

19. $4xy = -1$

Graph each pair of functions. Find the approximate point(s) of intersection.

21. $y = \frac{3}{x-4}; y = 2$