Name _____ Class _____ Date _____

Practice 9-2

Graphing Inverse Variations

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

1. $x = 2; y = 1$ **2.** $x = -1; y = 3$ **3.** $x = 4; y = -2$ **4.** $x = 0; y = 6$

5. $x = 3; y = 0$ **6.** $x = 1; y = 2$ **7.** $x = -3; y = -1$ **8.** $x = -2; y = 1$

Sketch the asymptotes and the graph of each equation.

9. $y = \frac{3}{x-1} + 2$ **10.** $y = \frac{2}{x+1}$ **11.** $y = \frac{11}{x+3} - 3$ **12.** $y = -\frac{4}{x-2} - 2$

13. $y = \frac{1}{x} + 3$ **14.** $y = \frac{1}{x+1} - 2$ **15.** $y = \frac{1}{x-2} + 1$ **16.** $y = \frac{1}{x-1} - 1$

17. $y = \frac{2}{x}$ **18.** $y = -\frac{3}{x-3} + 1$ **19.** $y = \frac{1}{x+1} + 2$ **20.** $y = \frac{3}{4x} + \frac{1}{2}$

21. $y = \frac{3}{x+3} - 1$ **22.** $y = \frac{2}{x-5}$ **23.** $y = -\frac{6}{x-3} - 2$ **24.** $y = \frac{5}{x}$

25. $y = \frac{1}{x-1} + 1$ **26.** $y = \frac{1}{x}$ **27.** $y = -\frac{3}{x-4} - 2$ **28.** $y = -\frac{1}{x-2} - \frac{1}{2}$

The length of a panpipe p (in feet) is inversely proportional to its pitch ℓ (in hertz). The inverse variation is modeled by the equation $p = \frac{495}{\ell}$.

29. Find the length required to produce a pitch of 220 Hz.

30. What pitch would be produced by a pipe with a length of 1.2 ft?

31. Find the pitch of a 0.6-ft pipe.

32. Find the pitch of a 3-ft pipe.

The junior class is buying keepsakes for the junior-senior prom. The price of each keepsake p is inversely proportional to the number of keepsakes s bought. The equation $p = \frac{1800}{s}$ models this inverse variation.

33. If they buy 240 keepsakes, how much can the class spend for each?

34. If they spend $5.55 for each keepsake, how many can the class buy?

35. If 400 keepsakes are bought, how much can be spent for each?

36. If the class buys 50 keepsakes, how much can be spent for each?