Name _____ Class _____ Date _____

11-7 Practice

Form K

Graphing Rational Functions

Identify the excluded value of each rational function.

1. $f(x) = \frac{5}{x}$

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

3. $y = \frac{-11}{x + 8}$

4. $f(x) = \frac{-6}{x}$

Identify the asymptotes of the graph of each function. Then graph the function.

5. $y = \frac{6}{x}$

6. $f(x) = \frac{5}{-1 + x}$

7. $g(x) = \frac{8}{3-x}$

8. $y = \frac{-5}{x + 2}$

9. Find the domain for x in the equation $xy = 3$.

10. Graph the equation $xy = 3$. What happens to the values of y as x approaches 0 from the left and from the right?

Describe the graph of each function.

11. $y = \frac{1}{x + 1} + 2$

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

Name _____ Class _____ Date _____

11-7 Practice (Continued)

From K

Graphing Rational Functions

13. Name the family of functions to which each of the following functions belongs.

a. $y = \sqrt{x + 1}$

b. $f(x) = 3^x$

c. $f(x) = |x + 5|$

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

e. $g(x) = \frac{2x-1}{3}$

f. $y = x^2 + 5x + 4$

g. $y = -4x - 1$

h. $g(x) = \frac{3}{x + 1} + 7$

14. A group of family members go together to pay for an anniversary trip for their grandparents. Each person pays the same amount of money toward the trip. The total cost of the trip is $5000. Write an equation for the total cost per person who decides to participate.

15. Open-Ended Write an example of a rational function with a vertical asymptote at $x = -2$ and a horizontal asymptote at $y = 2$.

16. Graph each function. Describe the similarities and differences between them.

a. $f(x) = \frac{2}{x}$

b. $f(x) = \frac{2}{x-2}$

c. $f(x) = \frac{2}{x-2} + 3$

d. $f(x) = \frac{-2}{x-2} + 3$