Determine whether each relation is a function. Five the domain and range for each relation.

1. $\{(1,2), (3,4), (5,5)\}$

_____

2. $\{(3,4), (3,5), (4,4), (4,5)\}$

_____

3. $\{(-3,-3), (-2,-2), (-1,-1), (0,0)\}$

Determine whether each equation defines y as a function of x.

4. $x + y = 16$

_____

5. $x^2 + y = 16$

_____

6. $x^2 + y^2 = 16$

Evaluate each function at the given values of the independent variable and simplify.

7. $f(x) = 4x + 5$

     a. $f(6)$ b. $f(x + 1)$ c. $f(-x)$

8. $f(x) = x^2 + 2x + 3$

   a. $g(-1)$

   b. $g(-x)$

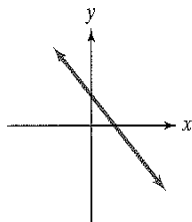9. $f(x) = \frac{4x^2 - 1}{x^2}$

   a. $f(2)$

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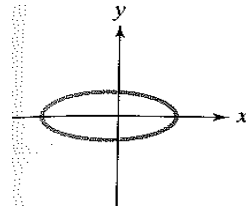
10. $f(x) = \frac{x}{|x|}$

    a. $f(6)$

    b. $f(-6)$

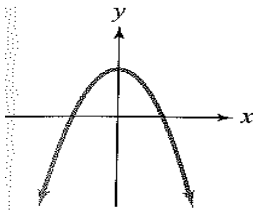**Use the vertical line test to identify graphs in which y is a function of x.**

11.

12.

13.

14.