

Lessons 2.1 Worksheet

Name: _____

1.) In the equation $y = x + 5$, x is the _____ variable and y is the _____ variable.

Identify the domain and range of the given relation. Then tell whether the relation is a function.

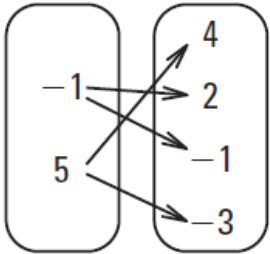
2.) $(5, -2), (-3, -2), (3, 3), (-1, -1)$ domain _____ range _____ function? _____

3.) $(-7, 4), (2, -5), (1, -2), (-3, 6)$ domain _____ range _____ function? _____

4.) $(4, -2), (4, 2), (16, -4), (16, 4)$ domain _____ range _____ function? _____

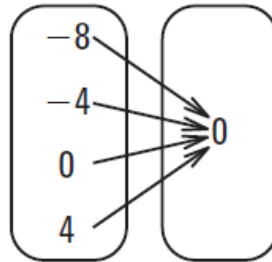
Tell whether the relation is a function. Explain how you know.

5.) **Input** **Output** function? _____



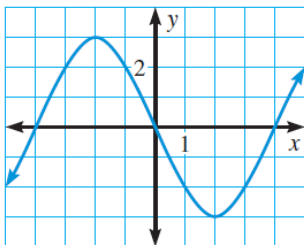
explain:

6.) **Input** **Output** function? _____



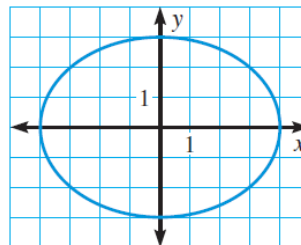
explain:

7.) function? _____



explain:

8.) function? _____

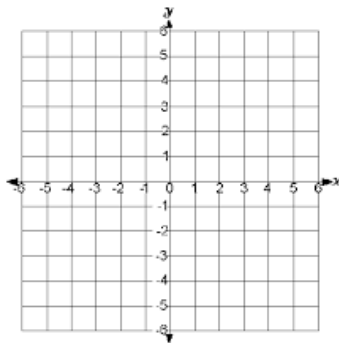


explain:

Graph each function by creating a table of values.

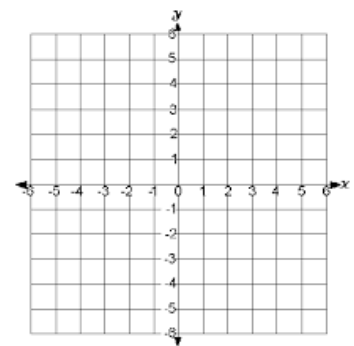
9.) $y = -x + 5$

x	y



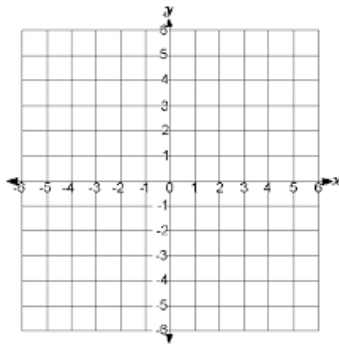
10.) $y = 5x - 3$

x	y



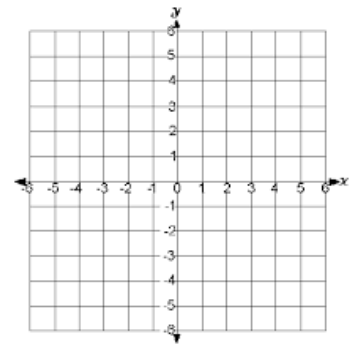
11.) $y = \frac{1}{2}x + 2$

x	y



12.) $y = -\frac{3}{4}x - 1$

x	y



Tell whether the function is linear. Then evaluate the function for the given value of x .

13.) $f(x) = x + 15$; $f(8)$

linear? _____ $f(8) =$ _____

14.) $f(x) = |x| + 10$; $f(-4)$

linear? _____ $f(-4) =$ _____

15.) $g(x) = x^3 - 2x^2 + 5x - 8$; $g(-5)$

linear? _____ $g(-5) =$ _____

16.) $h(x) = 7 - \frac{2}{3}x$; $h(15)$

linear? _____ $h(15) =$ _____

17.) Anthropologists can estimate a person's height from the length of certain bones. The height h (in inches) of an adult human female can be modeled by the function $h(l) = 1.95l + 28.7$ where l is the length (in inches) of the femur, or thigh bone. The function is valid for femur lengths between 15 inches and 24 inches, inclusive.

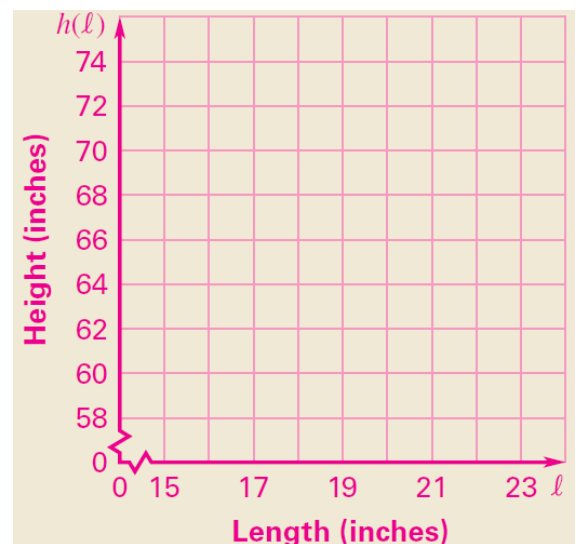
a.) Graph the function.

b.) Determine a reasonable domain and range for the function.

domain: _____ range: _____

c.) Suppose a female's femur is 15.5 inches long. About how tall was she?

height: _____



d.) If an anthropologist estimates a female's height as 5 feet 11 inches, about how long is her femur?

femur length: _____