**Domain and Range**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The domain of a function is the set of all\_\_\_\_\_\_\_\_\_\_\_ values.

The range of a function is the set of all \_\_\_\_\_\_\_\_\_\_\_\_\_ values.

1. What is the difference between practical and theoretical domain?
2. Bobby buys a cell phone and the plan he chose charged him $40 for the phone and $0.05 for each minute he is on the phone. What would be the appropriate domain that describes this relationship? If Bobby decided to graph the function that relates his cost to minutes used, what would the point (10,51) represent?
3. Jeremy throws a football through the air from a point 5ft above the ground. The ball reached a height of 15ft and landed on the ground 60ft away. What would be the appropriate domain and range that describes the relationship between the height of the ball and distance that Jeremy threw the ball?
4. Graph the function$f\left(x\right)=\frac{1}{2}x-3$ and determine the domain and range.
5. Graph the function $f\left(x\right)=3\*2^{x} $and determine the domain and range.
6. Graph the function$f\left(x\right)=-2x^{2}+3x-4$ and determine the domain and range.

Independent Practice

1. Meredith hit a volleyball over the net from a height 3ft above the ground. The volleyball reached a height of 12ft before it landed on the floor of the volleyball court 15 feet away from where Meredith was standing. What would be an appropriate domain and range for a function that models the height and distance the ball travels?
2. A single bacterium is placed in a test tube and splits in two after one minute. After two minutes, the resulting two bacteria split in two, creating four bacteria. If this process continues, what would be an appropriate domain that describes this relationship? What does the point (4,16) represent on the graph of this function?
3. Graph the function $f\left(x\right)=-3x+2$ and determine the domain and range.
4. Graph the function $f\left(x\right)=x^{2}+3$ and determine the domain and range.
5. Graph the function $f\left(x\right)=4^{x}+7$ and determine the domain and range.