Define domain and range in your own words.

Domain –

Range –

Problem 1 – Sunflower Growth

Read the problem on page 1.3 and then graph the function modeling sunflower growth.

- Determine the domain and range.

  Domain: Range:

- What do the values for the domain and range tell you about the growth of the sunflower plant in this study?

Problem 2 – Wind Turbine Power

Read the problem on page 2.1 and then graph the function given.

- Why is it necessary to restrict the domain and range for this function?

- Identify the domain and range for the function modeling power output by a wind turbine.

  Domain: Range:

Problem 3 – Bald Eagle Population

On page 3.1, read the problem and then graph the function modeling number of young.

- Given that the exponential growth function models bald eagle data since 1990, when $t = 0$, determine the domain and range for this function.

  Domain: Range:

Name _____

Class _____

Additional Problems

For each problem, graph the function given and then indentify the domain and range.

1. $f(x) = (x-2)^2 - 3$

   domain: range:

2. $f(x) = \dfrac{1}{\sqrt{x-5}}$

   domain: range:

3. $f(x) = \sin(x)$

   domain: range:

4. $f(x) = \log_{10} x$

   domain: range:

5. The relationship between the intensity of a light (I), and the distance from the source of the light (d), is given by the equation, $I = \dfrac{k}{d^2}$, where k is a constant. For a given light bulb, $k = 0.7242$. Graph the light intensity function and determine the domain and range.

   domain: range:

6. Why does the value $d = 0$ not work for the intensity function?

7. How does the graph illustrate that $d = 0$ is not valid for the intensity function?