Trigonometry

Section P-6 (Part 1): Analyzing Graphs of Functions

Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Objectives**:

* Students will be able to analyze the graph of a function (zeros, domain, range, and function values).

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| **Main Idea** | **Notes** |
| **Vocabulary:****Example 1: Finding the Zeros of a Function** | The **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  is the collection of ordered pairs (x, f(x)) such that x is in the domain of the function.Label all parts of the graph below:Remember, if a graph of a function*, f*, crosses the *x*-axis, then the function has an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.The *x*-intercept(s) of a function are called the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the function.Find the zeros of the function. Remember, you need to find all values that satisfy the equation *f(x) = 0*.1.
2.
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| **Vocabulary:****Example 2: Determining the Domain and Range from the Graph of a Relation****Example 2 (Continued): Determining the Domain and Range from the Graph of a Relation****Example 3: Finding Function Values****Vocabulary:****Example 4: Find the Domain and Range****Homework:** | Think of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_as the set of x values that work.Think of the\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ as the set of y values that work.Remember: To find the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a function, find all values that make the function \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and throw them out of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.Find the domain and range of each graph. Write your answer in interval notation.***x******y******x******y******x******y******x******y******x******y******x******y***Given the graph, find each function value by inspecting the graph.***x******y****f*(x)1. *f*(0) = \_\_\_\_\_\_\_\_\_\_\_
2. *f*(4) = \_\_\_\_\_\_\_\_\_\_\_
3. *f*(-5) = \_\_\_\_\_\_\_\_\_\_\_
4. *f*(-6) = \_\_\_\_\_\_\_\_\_\_\_

A \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dot indicates that the point belongs to the graph.An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ dot indicates that the point does not belong to the graph.An\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ indicates that the graph extends indefinitely in the direction in which the arrow points.Use the graph of the function *f* to answer the following questions.**-5****-4****-3****-2****-1****1****2****3****4****5****5****4****3****2****1****-1****-2****-3****-4****-5**1. What is the domain of *f* (***x***)?
2. What is the range of *f* (***x***)?
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