Trigonometry

Section P-5 (Part 4): Functions

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

**Objectives**:

* Students will be able to write and analyze functions that represent real world situations.
* Students will be able to evaluate a difference quotient.

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| **Main Idea** | **Notes** |
| **Example 1: Writing a Distance Function** **Example 2: The Dimensions of a Container****Example 3: Evaluating a Difference Quotient** | Suppose a car travels at 70 miles per hour. Let *y* be the distance the car travels in *x* hours. Write the formula that would represent your total distance in terms of time. Does this formula represent a function? ExplainRewrite the equation in function notation.What is f(3)? Interpret this output in the context of this problem.Let’s pretend that you work in the marketing department of a soft drink company. You are experimenting with a new soft-drink can that is slightly narrower and taller than a standard can.For your experimental can, the ratio of the height to the radius is 4. Label the can below.1. Express the volume of the can as a function of the radius *r*
2. Express the volume of the can as a function of the height *h*

*For f(x) = x² - 4x + 7, find* $\frac{f\left(x+h\right)-f(x)}{h}$*.* |
| **Homework:** |  |