

MTH 28 LECTURE NOTES (Ojakian)

Topic 3: Functions

OUTLINE

References: 3.5, 3.6 (parts of!)

1. Function Notation

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$NAME(x) = [\text{PUT ALGEBRAIC EXPRESSION}]$.

PROBLEM 1.

(a) Let $f(x) = 3 + x^2$.

Find the value $f(9)$. Evaluate $f(-5)$.

(b) Let $g(x) = \frac{3}{1-x}$.

Find $g(16)$. Find $g(4)$.

PROBLEM 2. *The Empire State Building has 102 stories and is 1454 feet tall (including its antenna). It was the world's tallest building from 1931 to 1970 (reference: Wikipedia). Find out how much time it will take an object dropped from the top to hit the ground.*

The time, in seconds, that it takes for an object to fall, from rest, is given by the function:

$$f(d) = (1/4)\sqrt{d},$$

where d is the distance fallen (in feet); reference: BARATTO & BERGMAN (4TH ED)-p. 727, ex 87.