

No notes or calculators. Show all work.

1. (3 points) Find the average rate of change for the function below between $t = 3$ and $t = 22$.

$$f(t) = \sqrt[3]{t+5}$$

2. (5 points) Find the derivative of the function below by using the definition of the derivative.

$$f(x) = 4x^2 - 6x + 5$$

3. (2 points) Use the following terms to answer the questions below.

Tangent Line

Secant Line

- (a) The number found in problem 1 can be used as the slope of a _____.
- (b) The function found in problem 2 can be used to find the slope of a _____.