Name: _____ Date: _____

QUIZ

Pre-Calculus: Series - Slopes

Review Concepts

Problem Solving

Directions:

You have 15 minutes to find the solution, or to complete the functions. Use the Series concept, its formal definition, rules of calculating The Sum of, and methods for calculating the Sum of.

When Secant-Tangent-Slope is present, sketch the graph of the function f (x). Analyze the Graph when appropriate. Explain those terms. Clearly indicate the necessary steps.

Grade: _____

Teacher's Signature: _____

1. Apply the Series concept.

Find the sum of

a.) $\sum_{k=i}^{j} f(k)$

b.) $\sum_{j=3}^{5} f(j)$

2. Apply the Series concept.

Find the Sum of

a.) $\sum_{j=-2}^{2} g(j)$

b.) $\sum_{k=1}^{5} K$

3. Apply the Series concept.

Find the Sum of

a.) $\sum_{k=1}^{4} a_k$

b.) $\sum_{k=0}^{2} 1$

4. f, g, and kf, are polynomial functions of degree n. where

$$f(x) = \sum_{i=0}^{n} a_i \cdot x_i$$

$$g(x) = \sum_{i=0}^{n} b_i \cdot x_i$$

Find/Calculate the Sum of

a.) $(f + g)(x)$

b.) $(k \cdot f)(x)$ k is a constant

Hint: All polynomial functions are of degree n (same degree)
K is a constant
$(f + g)(x) = f(x) + g(x)$

5. Given a point (x,y) in space and a number m (slope), there is exactly one line of slope m thru (x,y) that satisfies

$$y - yo = m\,(x - xo)$$

Draw the graph of $y = mx + b$ (an arbitrary graph), then write the equation of the line having a slope of 1/8 and passing through the point (4, 2).