Pre-Calculus AB Name_____



# Worksheet 10 - Lesson 34

Date_____ Period____

**Evaluate each series.**

1) $\sum_{a=4}^{9} 5a$

2) $\sum_{k=1}^{5} k(k+1)$

3) $\sum_{m=4}^{10} (40 - m^2)$

4) $\sum_{k=0}^{6} k$

**Rewrite each series using sigma notation.**

5) $4 + 6 + 8 + 10 + 12$

6) $0 + 1 + 4 + 9 + 16 + 25$

**Perform the indicated operation.**

7) $g(x) = 2x + 5$
Find $(g \circ g)(x)$

8) $g(a) = a^2 - 2$
$f(a) = 3a$
Find $(g \circ f)(a)$

9) Find two functions $f$ and $g$ such that $(f \circ g)(x) = \sqrt[3]{x^2}$

10) Find two functions $h$ and $g$ such that $(h \circ g)(x) = 5\log(x - 1)$

  

11) Find two functions $h$ and $f$ such that $(h \circ f)(x) = \frac{1}{x} + \frac{1}{x^2}$

12) Find two functions $f$ and $g$ such that $(g \circ f)(x) = \left(\sqrt{x} + 3\right)^5$

13) The data points in the table below came from an experiment that involved molybdenum (Mo) and zirconium (Zr). Note that in the graph the horizontal and vertical scales are different. The position of the line that best fits the date points is estimated in the graph. Write an approximate linear equation that expressed molybdenum as a function of zirconium ($Mo = mZr + b$)

14) The data points in the table below came from an eperiment that involved hydrogen (H) and carbon (C). The position of the line that best fits the data points is estimated. Write the equation that expresses hydrogen as a function of carbon ($H = mC + b$)

15) Using your graphing calculator find the linear regression line for the table of data showing a linear relationship between temperatures measured in Celsius and Fahrenheit ($C = mF + b$)

(a) STAT -> 1: Edit -> Enter x-data to L1, y-data to L2
(b) To Graph it: 2ND -> Y= ->1: Plot 1...Off -> On -> GRAPH
(c) To find Linear Regression Line: STAT -> CALC -> 4: LineReg(ax+b)
(d) To graph the linear regression: Y= -> VARS -> Statistics -> EQ -> 1: RegEQ