You must complete this before retaking the MC again. Remember it is all about LEARNING so take your time and learn how to do these skills. If you need help please ask!

NAME:_____

Corrective Assignment 6.4

Directions: Write the equation of variation for each situation; use k as the constant of variation.	
1) Y is directly proportional to the square of x.	2) U is inversely proportional to v.
3) L is directly proportional to the cube of m.	4) S is directly proportional to the square root of u and inversely proportional to v.

Directions: Write the equation of variation for each situation and solve.	
5) L is inversely proportional to the square of M. If L = 9 when M = 9, find L when M = 6.	6) I is directly proportional to the cube root of y. If I = 5 when y = 64, find I when y = 8.
7) If f varies directly as g and inversely as the square of h, and f = 20 when g = 50 and h = 5, find f when g = 18 and h = 6.	8) If y varies jointly as a and b and inversely as the square root of c, and y = 12 when a = 3, b = 2, and c = 64, find y when a = 5, b = 2, and c = 25.

Directions: Translate each statement into an equation using k as the constant of variation.	
9) The f-stop numbers N on a camera, known as focal ratios, are directly proportional to the focal length F of the lens and inversely proportional to the diameter, d, of the effective lens opening.	10) The time, t, required for an elevator to lift a weight is jointly proportional to the weight, w, and the distance, d, through which it is lifted, and inversely proportional to the power, P, of the motor.

Directions: Write the equation of variation for each situation and solve.	
11) The number of minutes needed to solve an exercise set of variation problems varies directly as the number of problems and inversely as the number of people working on the solutions. It takes 4 people 36 minutes to solve 18 problems. How many minutes will it take 6 people to solve 42 problems.	12) The electrical resistance of a wire varies directly as its length and inversely as the square of its diameter. A wire with a length of 200 inches and a diameter of one-quarter of an inch has a resistance of 20 ohms. Find the electrical resistance in a 500 inch wire with the same diameter.
13) The maximum load that a cylindrical column with a circular cross section can hold varies directly as the fourth power of the diameter and inversely as the square of the height. A 9 meter column 2 meters in diameter will support 64 metric tons. How many metric tons can be supported by a column 9 meters high and 3 meters in diameter?	14) The volume of gas varies directly as the temperature and inversely as the pressure. If the volume is 230 cubic centimeters when the temperature is 300° K and the pressure is 20 pounds per square centimeter, what is the volume when the temperature is 270° K and the pressure is 30 pounds per square centimeter?

ANSWERS TO CORRECTIVE ASSIGNMENT:

Make sure you check all your answers and make sure you KNOW how to do all of them. You could simply copy answers but that's not the point. The point is that you have to learn how to do this so please make sure that for any you don't understand you get help BEFORE taking the Mastery Check again.

1) y = kx 2) $U = \frac{k}{v}$ 3) $L = k \cdot m^3$ 4) $S = \frac{k \cdot \sqrt{u}}{v}$ 5) L = 20.25 6) I = 2.5 7) f = 5 8) y = 32 9) $N = \frac{k \cdot F}{d}$

10) $t = \frac{k \cdot w \cdot d}{P}$ 11) 56 minutes 12) 50 ohms 13) 324 metric tons 14) 138 cubic centimeters