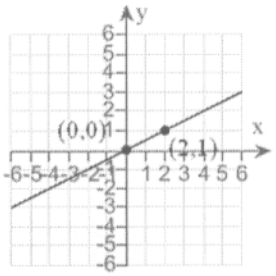
Student: _____	**Instructor:** courtney trabue	**Assignment:** MAT 097 Direct and Inverse Variation (10.8)
Date: _____	**Course:** GMC LSS Mathematics	
Time: _____	**Book:** Martin-Gay: Developmental Mathematics	

1. Write a direct variation equation, $y = kx$, that satisfies the ordered pairs in the table.

x	1	7	8	9
y	2	14	16	18

$y =$ ☐

2. Write a direct variation equation, $y = kx$, that describes the graph.



☐

(Use integers or fractions for any numbers in the equation. Simplify your answer.)

3. Write an inverse variation equation, $y = \frac{k}{x}$, that satisfies the ordered pairs in the table.

x	−6	−3	−1	2
y	−1	−2	−6	3

$y =$ ☐

4. Write an equation to describe the variation. Use k for the constant of proportionality.

d varies directly as g^2

The equation is ☐.

5. Write an equation to describe the variation. Use k for the constant of proportionality.

u varies inversely as z^2

The equation is ☐.

6. If x varies directly as y, and $x = 40$ when $y = 5$, find x when $y = 10$.

$x =$ ☐

7. If z varies inversely as w, and $z = 10$ when $w = 0.8$, find z when $w = 40$.

$z =$ ☐ (Round to the nearest thousandth.)

8. z varies directly as x^2. If $z = 32$ when $x = 4$, find z when $x = 5$.

$z =$ ☐

9. a varies inversely as b^3. If $a = \frac{9}{8}$ when $b = 2$, find a when b is 3.

$a =$ ☐

10. Your paycheck (before deductions) varies directly as the number of hours you work. If your paycheck is $247.20 for 24 hours, find your pay for 10 hours.

Your pay is $☐.

11. The distance d when a spring is stretched by a hanging object varies directly as the weight w of the object. If the distance is 67 cm when the weight is 2 kg, what is the distance when the weight is 7 kg?

The distance is ☐ cm.
(Simplify your answer. Type an integer or a fraction.)

12. The weight W of an object varies inversely as the square of the distance d from the center of the earth. At sea level (3978 mi from the center of the earth), an astronaut weighs 113 lb. Find her weight when she is 424 mi above the surface of the earth and the spacecraft is not in motion.

Her weight is ☐ lb.
(Round your answer to the nearest hundredth as needed.)

13. The distance d that an object falls is directly proportional to the square of the time of the fall, t. A person who is parachuting for the first time is told to wait 15 seconds before opening the parachute. If the person falls 64 feet in 2 seconds, find how far he falls in 15 seconds.

The distance is ☐ feet.