Section 3.3 Extra Practice

1. Does each table of values represent a partial variation relationship? How do you know?

a)

Time (h)	Cost ($)
0	0
1	15
2	30
3	45
4	60

b)

Time (h)	Cost ($)
0	5
1	7
2	9
3	11
4	13

c)

x	y
0	4
1	5
2	7
3	10
4	14

d)

Sales ($)	Earnings ($)
0	300
100	600
200	900
300	1200
400	1500

2. Each table of values represents a linear relationship with partial variation. Determine the missing values.

a)

Time (weeks)	Earnings ($)
0	300
1	325
2	350
3	
4	

b)

Time (h)	Rainfall (mm)
0	10
1	
2	16
3	
4	

c)

Time (h)	Cost ($)
1	
2	20
3	
4	30
5	

d)

Time (years)	Value ($)
0	500
1	
2	
3	650
4	

3. State the rate of change and the constant or fixed amount for each relationship in #2.

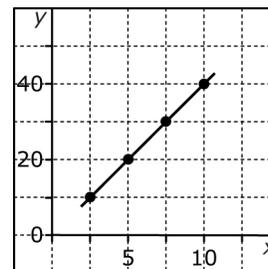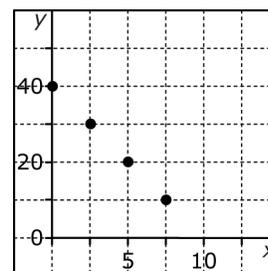**4.** Which graphs represent a partial variation relationship? How do you know?

a)
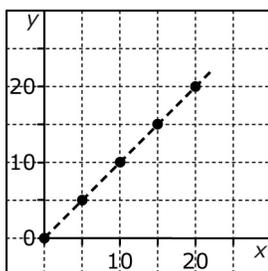
b)
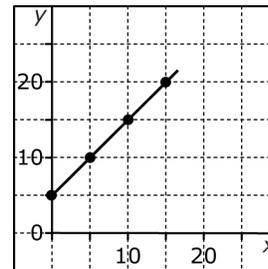
c)

d)

5. a) Complete the table of values.

t	C (C = 100 + 50t)
0	
1	
2	
3	
4	

b) Does the equation model a relationship with partial variation? How do you know?

Name: _____   Date: _____

6. a) Substitute the values $x = 0, 1, 2$, and 3 into the equation $y = 2x + 3$ and solve for y. Record your answers in a table of values.

b) Does the equation model a relationship with partial variation? How do you know?

c) Predict what a graph of the relationship would look like.

7. Which equations represent a relationship with partial variation?

a) $P = 2l + 2w$

b) $d = 2r$

c) $y = 5x$

d) $C = 100 + 50t$

e) $y = 2x + 4$

f) $E = 15.75h$

g) $y = x$

h) $A = \dfrac{b \times h}{2}$

8. For each partial variation equation in #7, determine the slope and the y-intercept of its graph.

9. A photographer charges a booking fee of $200 and $50 for each hour worked.

a) What are the initial value and the rate of change?

b) What is the total cost at the end of the first hour worked?

c) Create a table of values that shows the relationship between the number of hours worked and the total cost for an 8-h photo shoot.

d) Predict what a graph of the table of values would look like.

10. Cal measures the depth of water in a basin as it drains at a continuous rate. The basin initially holds 15 cm of water, and, it lowers by 3 cm each minute.

a) What are the initial value and the rate of change?

b) Create a table of values that shows the relationship between the number of minutes and the depth of water over time.

c) Create a graph to show the depth of water over the first 4 min.

d) How many minutes will it take for the basin to drain completely?

11. The cost of hiring a caterer is $10 per person. The caterer changes a $200 booking fee.

a) Write an equation for the total cost, C, of catering a dinner, in terms of the number of people, p.

b) Use the equation to determine the total cost of a catered dinner for 150 people.