Section 3.2 Extra Practice

1. Which tables of values represent a direct variation relationship? Explain how you know.

a)

Time (h)	Cost ($)
0	0
1	12
2	24
3	36
4	48

b)

x	y
0	0
1	3
2	6
3	9
4	12

c)

Time (days)	Earnings ($)
1	50
2	75
3	100
4	125
5	150

d)

Time (h)	Degrees (°C)
0	10
1	8
2	6
3	4
4	2

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

a)

Time (h)	Distance (km)
0	0
1	90
2	
3	270
4	360

b)

Number of Classes	Number of Students
0	0
1	
2	50
3	
4	100

c)

Time (min)	Height (cm)
1	
2	
3	80
4	120
5	

d)

| Time (h)	Earnings ($)
0	
1	12.50
2	
3	37.50
4	

3. What are the initial value and rate of change for each relationship in #2?

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

a)
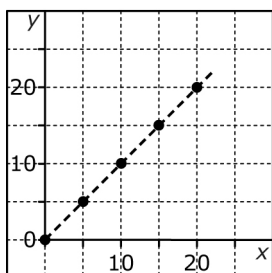
b)
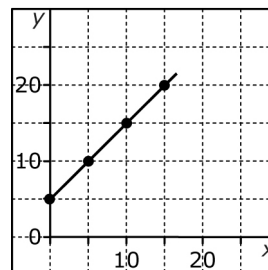
c)
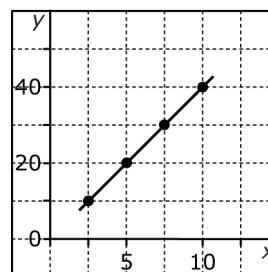
d)
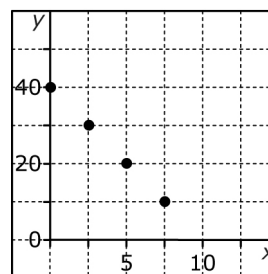
5. a) Complete the table of values.

t	C (C = 25t)
0	
1	
2	
3	
4	

b) What do you notice about the number patterns in each column?

c) Does the equation $C = 25t$ model a relationship with direct variation? How do you know?

6. a) Substitute the values $x = 0$, 1, 2, and 3 into the equation $y = 6x$ and solve for y.
   b) Does the equation $y = 6x$ model a relationship with direct variation? Explain why or why not.
   c) Predict what a graph of the relationship between x and y in the equation $y = 6x$ would look like.

7. a) Substitute the values $t = 0$, 1, 2, and 3 into the equation $C = 20t + 10$ and solve for C.
   b) Does the equation model a relationship with direct variation? Explain why or why not.

8. Which equations represent a relationship with direct 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) $A = \dfrac{b \times h}{2}$

9. The cost of purchasing and installing ceramic tiles is $13 per square foot. James wants to create a table for customers to refer to. Create a table of values that shows the cost of the tiles in full square feet for 1 ft^2 to 10 ft^2.

10. Robyn earns $16/h as a lifeguard.
   a) Create a table of values to show her total earnings for 0 h to 5 h of lifeguarding.
   b) What is the rate of change?
   c) Graph the relationship between Robyn's total earnings and the number of hours of lifeguarding.
   d) Would you draw a line, dashed or solid, through the points? Explain your decision.
   e) What are the slope and y-intercept of the graph?
   f) Use the graph to estimate how many hours Robyn has to lifeguard to earn $40.

11. The cost of fuel depends on how much a customer buys and the cost per litre. One gas station sells regular gasoline for $1.55 per litre.
   a) Express the cost of the regular gasoline per litre.
   b) Determine the cost of 42 L of gasoline.
   c) Predict what a graph of the equation would look like. Explain your thinking.