Name _____ **Math 7: Proportional Relationships**

Questions 1 – 2: Look at the tables below. Determine whether each of them is showing a proportional relationship.

1. **a.**

1	2	3	4	5
10	20	30	40	50

_____

A) Proportional B) Not Proportional

b.

0	0
1	3
2	6
3	30
4	12

_____

A) Proportional

B) Not Proportional

2. **a.**

1	2	3	4	5
9	18	27	36	47.5

_____

A) Proportional B) Not Proportional

b.

0	0
1	0.5
2	1
3	1.5
4	2

_____

A) Proportional

B) Not Proportional

3. In which table is y proportional to x? _____

A)

x	y
1	7
2	14
3	21
4	31.5
5	35

B)

x	y
1	80
2	160
3	240
4	320
6	480

C)

x	y
1	3
2	7
3	11
4	15
5	22

4. The cost of delivering packages from a company is outlined in the table below.

Weight of package (lb)	5	10	15	20
Cost ($)	11.50	20.50	27.00	31.00

a. If a package weighs 5 pounds, what would be the cost per pound of sending the package? _____

b. If a package weighs 10 pounds, what would be the cost per pound of sending the package? _____

c. Is the cost of delivery proportional to the weight of the package? (*Yes* or *No*) _____

d. According to the table, what would you expect the cost of delivering a 25 pound package to be? _____

A) $\$70.00$ B) $\$57.50$ C) $\$32.50$

5. A chiropractor charges $40 per patient she treats.

a. The table below shows her weekly income where she treated 25 and 42 patients. Please complete the table.

Number of patients seen during the week	15	25	31	42	51
Weekly income ($)		1000		1680	

b. How much would she earn in a week where she treated zero patients? _____

c. Is her weekly income proportional to the number of patient she sees during the week? (*Yes* or *No*) _____

6. Aaron is making cups of fruit smoothie. The number of bananas and strawberries he uses is shown in the proportion table below.

Strawberries	8	16	24	32	40
Bananas	4.5	9	13.5	18	22.5

a. If he uses 24 strawberries, how many bananas will he need to use? _____

b. Determine the unit rate at which bananas are being used. That is, find the number of *bananas per strawberry* used. (Hint: Keep your answer as a fraction in simplest form.) _____

c. Is the number of strawberries proportional to the number of bananas? (*Yes* or *No*) _____

7. In the following table, y represents the total rent paid on a house that has been rented for x weeks.

x	y
10	3550
20	7100
30	10 650
40	14 200
50	17 750

a. According to the table, what is the weekly cost of rent? _____

b. We know that y is proportional to x because...

when $x = 0, y =$ _____

AND

the cost of the house for x weeks can be

written as the equation $y =$ _____x

8. Consider the following table of values. (For parts **a, b, d, e** answer *Yes* or *No*.)

x	y
1	5
2	10
3	15
4	20
5	25

a. According to the table, if x doubles in value, does y also double in value? _____

b. Is y increasing at a constant rate? _____

c. For every 1-unit increase in x, what is the increase in y? _____

d. Do the values of x and y satisfy an equation of the form $y = kx$? _____

e. Is y proportional to x? _____

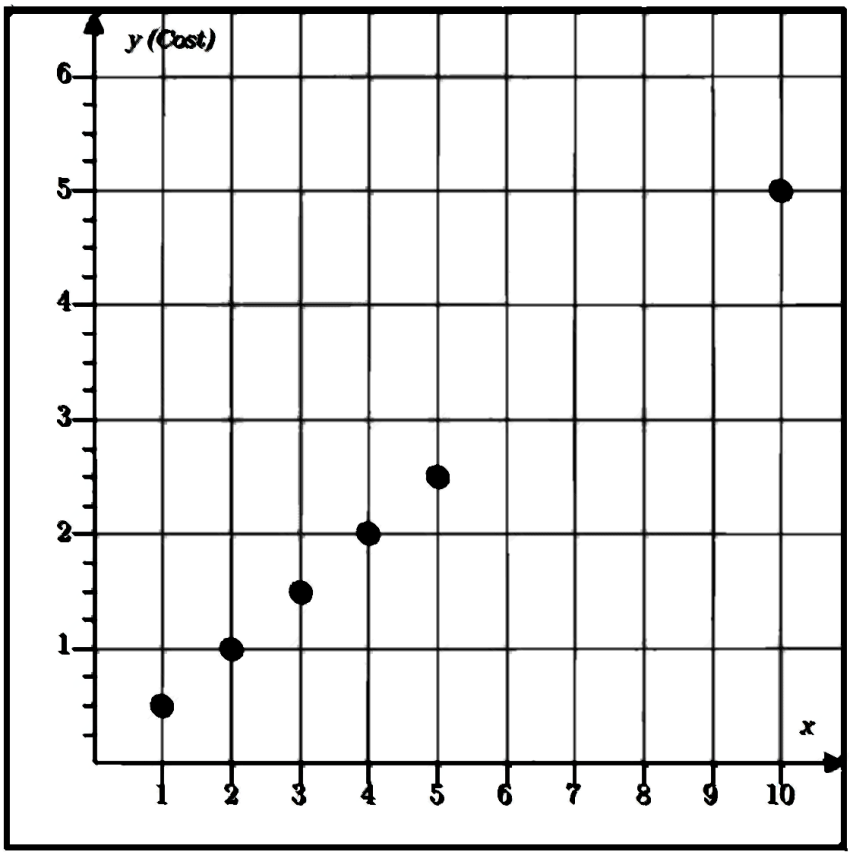
9. The admission prices to an amusement park are set out in the table below.

	Admission Price
1 Adult	$36
Family (4 people)	$132
Group (10 people)	$324

a. If you enter as a 'family', how much would each person's admission cost? (Show your work) _____

b. Is the admission price proportional to the number of people? (*Yes* or *No*) _____

10. The plotted points show the cost, in dollars, of printing x digital photos.



a. How much would it cost to print 0 photos? _____

b. Whether you print 2, 3, or 4 photos, is the cost per photo the same? (*Yes* or *No*) _____

c. Is it possible to draw a straight line that goes through all the points? (*Yes* or *No*) _____

d. Is the cost of printing digital photos proportional to the number of photos printed? (*Yes* or *No*) _____

e. At this rate, how much would it cost to print 80 digital photos? _____