Name_____ Date _____

Distinguishing Between Proportional and Non-Proportional Relationships

Independent Practice

Directions: For each of the situations below, complete the tables. Answer the debriefing questions.

At Lake Sam Rayburn, there are two boat companies that rent boats for day use. Their schedule of charges is shown. Complete both tables, and use the process column to determine an expression that can be used to calculate the cost of renting a boat for x hours.

Cedar Bay Boat Rental
$25 per Hour
No Deposit

Hours	Process	Cost	$\frac{y}{x} = \frac{\text{Cost}}{\text{Hours}}$
0	25(0)	0	n/a
1	25(1)	25	$\frac{25}{1} = 25$
2			
3			
4			
x		y	

Pine Island Boats
$15 per Hour
$50 Deposit

Hours	Process	Cost	$\frac{y}{x} = \frac{\text{Cost}}{\text{Hours}}$
0	50 + 15(0)	50	n/a
1	50 + 15(1)	65	$\frac{65}{1} = 65$
2			
3			
4			
x		y	

Debriefing Questions

1. What patterns do you observe in the tables?

2. For each row of each table divide cost by hours. What do you notice?

3. What are the similarities and differences in the algebraic expressions for each company?

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4. A **proportional relationship** is a relationship between two sets of numbers, x and y, such that the ratio of y to x is constant. Which of these two boat rental companies appears to use a proportional relationship to determine their charges?

For questions 5-8, determine if the table of values represents a proportional relationship. If so, then identify the constant of proportionality.

5

x	2	3	5	6
y	7.5	11.25	18.75	22.5

6

x	*y*
1	1
2	4
3	9
4	16

7

x	4	5	8	10
y	13	22	61	97

8

x	*y*
1	0.8
2	1.6
5	4
8	6.4