Algebra 1 Name:________________________
HW #4: Two Variable Equations

1. Determine which of the following tables could represent a linear equation. For each that could be linear, find a linear equation that models the data.

a.

X	Y
5	3
10	28
20	58
25	93

b.

X	Y
0	-5
5	20
10	45
15	70

2. A mountain climber is scaling a 400-ft cliff. The climber starts at the bottom at $t = 0$ and climbs at a constant rate of 124 feet per hour.

a. Complete the table.

Time *t*, (hours)	0	1	2	3	4
Distance (ft)					

b. Calculate and interpret the slope.

For each additional _____________, the mountain climber scales ______________.

b. Calculate and interpret the y-intercept.

At the beginning of the climb, when *time* = _____, the mountain climber has scaled __________ feet.

c. Use the slope and y-intercept to write the linear model for the distance *y (in feet)* that the climber climbs in terms of time *(in hours).*

y = ________________________

d. After 3 ½ hours, has the climber reached the top of the cliff? Show work.

e. Use your linear model in part #1***c*** to determine how long it takes for the climber to reach the top.

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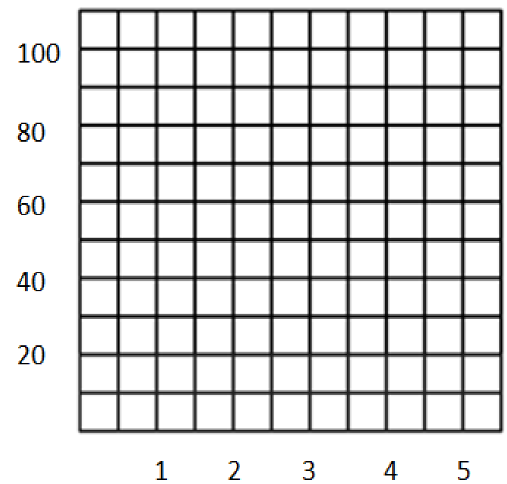
3. Renting a canoe costs $10 plus $18 per day. The linear model for this situation relates the total costs of renting a canoe, *y*, with the number of days rented, *x*.

Days Rented(x)	1	2	3	4	5
Total Costs (y)					

a. Complete the table and graph this data.



b. Calculate and interpret the slope.

For each additional _________, the cost to rent a canoe

increases ________.

c. Determine and interpret the y-intercept.

The initial cost to rent a canoe, when days = ______, is __________.

d. Use the slope and y-intercept to write the linear model for total cost to rent a canoe, y, as a function of days, x.

y = ___________________________

e. Use your model to determine the cost to rent a canoe for 7 days. _________________

f. Use your model to determine how many days you could rent a canoe if you had $190 to spend.

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