Algebra   Line of Best Fit Worksheet   Name _____

1) The table shows the cost of visiting a working ranch for one day and night for different numbers of people.

Number of People	4	6	8	10	12
Cost (dollars)	250	350	450	550	650

a) Can the situation be modeled by a linear equation? Explain.

Linear, It is Increasing by 100 everytime

b) What is the slope and what does it represent?

$(4,250)$ $(12,650) = \frac{650-250}{12-4} = \frac{400}{8} = \frac{50 \text{ (dollars)}}{1 \text{ (# of people)}}$

c) Write an equation that gives the cost as a function of the number of people in the group.

$250 = 50(4) + b$
$250 = 200 + b$
$\underline{-200 \quad -200}$
$50 = b$

The price is increasing $50 when the # of people increase by 1.

$y = 50x + 50$ or $C = 50p + 50$

2) The table shows the cost of a catered lunch buffet for different numbers of people.

Number of People	Cost (dollars)
12	192
18	288
24	384
30	480
36	576
42	672

$(12,192)$ $(42,672)$

$m = \frac{672-192}{42-12} = \frac{480}{30} = \frac{16 \text{ (dollars)}}{1 \text{ (# of people)}}$

a) What is the slope and what does it represent?

The cost increases $16 when the # of people Increase by 1.

b) Write an equation that gives the cost of the lunch buffet as a function of the number of people attending.

$(12,192)$

$192 = 16(12) + b$
$192 = 192 + b$
$0 = b$

$y = 16x$

c) What is the cost of a lunch buffet for 120 people?

$120 = X$

$y = 16x$
$y = 16(120)$
$y = \$1,920$