U3D10_T Review

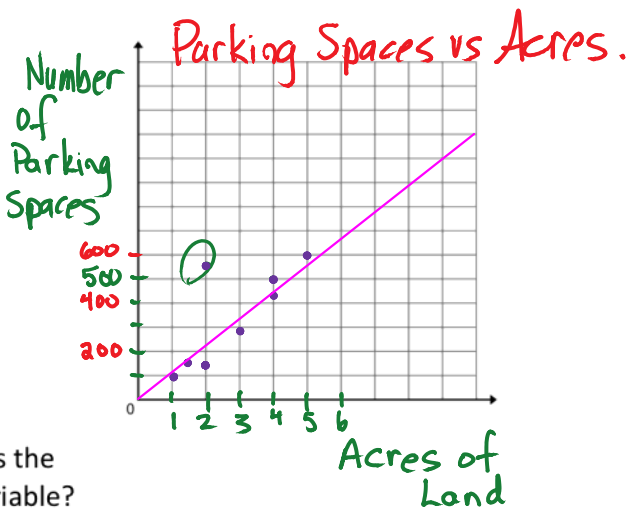
Wednesday, March 28, 2018 3:06 PM

U3D10_T Review

U3D10 **Review: Two Variable Data** Review Homework: Page 190 #1-7, 9, 11-13

1. This table compares the parking facilities of several large companies.

Acres of Land	Number of Parking Spaces
2.0	145
1.5	160
4.0	500
1.0	95
5.0	600
4.0	425
2.0	550
3.0	280



a) Which variable is the independent variable? Acres

b) Which variable is the dependent variable? Parking Spaces

c) Create a scatter plot. Choose the appropriate axis for each variable. (i.e. remember which axis is used for the independent variable and which is used for the dependent variable). Label each axis, choose an appropriate scale for each axis and give your graph a title.

d) Circle any outliers or influential points.

e) Describe the trend you see. (What is the correlation?) fairly strong, positive correlation

f) Describe the relationship between the variables. As number of acres increase, the number of parking spots increase.

g) Draw the line of best fit.

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h) Determine the equation of the line of best fit. Show your work.

from Desmos graph below

$b = 40$

$m = \frac{rise}{run}$

$m = \frac{50}{0.5}$

$m = 100$

$y = mx + b$

$y = 100x + 40$

i) How many parking spaces would you expect on 10 acres of land?

see graph below

$m = \frac{50}{0.5}$ ✓ $y = 100x + 40$

i) How many parking spaces would you expect on 10 acres of land? Use your equation to solve. Show your work. Is this interpolation or extrapolation?

see graph below

$y = 100(10) + 40$ ✓

$y = 1000 + 40$ $= 1040$

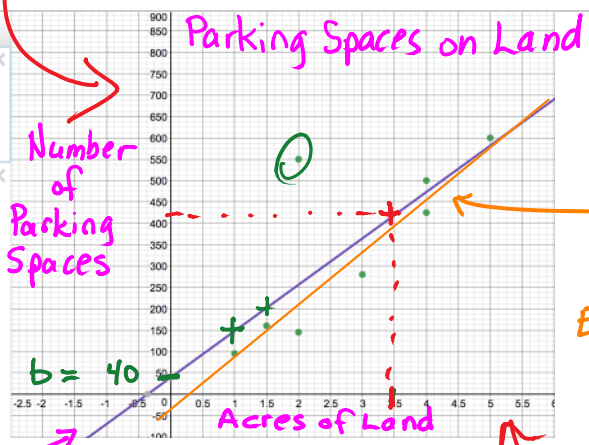
$\therefore$ 1040 parking spaces.

j) How many parking spaces would you expect to fit on 3.5 acres of land? Use your graph to solve. Show your work. Is this interpolation or extrapolation?

from graph below

420 parking spaces.

Dependent



$m = \frac{300}{2.5} = 130$

(1.5, 150) (4, 450)

this line considers the outlier an error so is disregarded.

Eq^n of orange line $y = 130x - 40$

Independent

this line considers the outlier an influential point

$m = \frac{50}{0.5}$ $b = 40$

$m = 100$