

11/7 Algebra 1 - Downing Bellwork

1. Write an equation that passes through $(-4, 7)$ $(8, 2)$

$$+12 \begin{pmatrix} -4 & 7 \\ 8 & 2 \end{pmatrix} - 5$$

$x \quad y$

$$m = \frac{-5}{12}$$

$$y = mx + b$$

$$2 = \frac{-5}{12}(8) + b$$

$$2 = -\frac{10}{3} + b$$

$$5\frac{1}{3} = b$$

2. Write an equation that passes

through $(5, 9)$ and perp to $y = -5x + 7$

$$9 = \frac{1}{5}(5) + b$$

$$\perp m = \frac{1}{5}$$

$$9 = 1 + b$$

$$\begin{array}{r} -1 \quad -1 \\ \hline 8 = b \end{array}$$

$$y = \frac{1}{5}x + 8$$

$$y = -\frac{5}{12}x + 5\frac{1}{3}$$

Go over HW Quiz.

4.5 Analyzing Line of Best Fit

Worksheet with data

To Clear Memory on GDC

$\boxed{2^{nd}}$ $\boxed{+}$ \rightarrow 7: Reset \rightarrow 1: All RAM \rightarrow 2: Reset

Turn Diagnostics On

$\boxed{2^{nd}}$ $\boxed{0}$ \rightarrow $\boxed{x^1}$ Scroll Down to "Diagnostics On" \boxed{Enter} \rightarrow \boxed{Enter}

Putting Data into GDC

\boxed{STAT} \rightarrow 1: Edit \rightarrow Put x-values into L_1
Put y-values into L_2

Graph the Scatterplot

1. Turn on Stat Plot

$\boxed{Y=}$ \rightarrow Go to "plot 1" \rightarrow \boxed{Enter}

2. Zoom into the Data

\boxed{ZOOM} \rightarrow 9: Zoom Stat

3. Graph

\boxed{Graph}

To line of Best Fit

STAT → **CALC** → 4: LinReg (ax+b) → **Enter**

Graphing Line of Best Fit

Y= → put in equation for line of best fit.

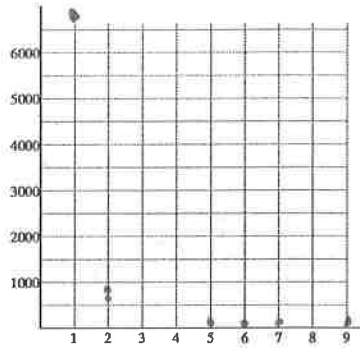
Worksheet - Find y when $x=11$

Work on 2nd Scatter Plot on worksheet
before you leave - NO HW

Construct a scatter plot. Then find the line of best fit.

5)

X	Y	X	Y	X	Y
1	6,633	3	640	7	18
2	1,878	5	78	8	5
2	1,978	6	51	9	1
3	573				



$$y = mx + b$$

$$y = ax + b$$

$$a = -506.79$$

$$b = 3516.73$$

$r = -.69$ ← correlation coefficient (moderate Neg Correlation)

$$y = -506.79x + 3516.73$$

Line of Best Fit

1. Using your line of best fit, find y when x = 11. plug 11 in for x

$$y = -506.79(11) + 3516.73 = y = -2057.96$$

2. Using your line of best fit, find x when y = 1,525. plug 1525 for y

$$1525 = -506.79x + 3516.73$$

Oct 25-10:39 AM

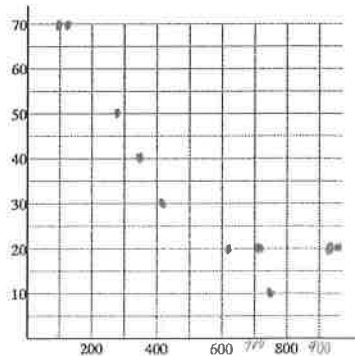
$$\frac{-1991.73}{-506.79} = \frac{-506.79x}{-506.79} \quad x = 3.93$$

Classwork ★

Construct a scatter plot. Then find the line of best fit.

6)

X	Y	X	Y	X	Y
100	70	410	30	770	10
120	70	620	20	950	20
290	50	710	20	970	20
360	40				



$$y = -.06x + 67.31$$

$r = -.90$

1. Using your line of best fit, find y when x = 521.

$$y = -.06(521) + 67.31$$

$$y = 36.05$$

2. Using your line of best fit, find x when y = 5.

$$5 = -.06x + 67.31$$

Oct 25-10:39 AM

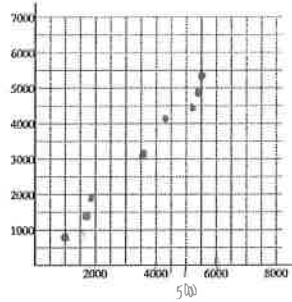
$$\frac{-62.31}{-.06} = \frac{-.06x}{-.06} \quad x = 1038.5$$



Construct a scatter plot. Then find the line of best fit.

7)

X	Y	X	Y
1,000	800	5,300	4,400
1,600	1,400	5,900	4,700
1,700	1,900	6,000	5,300
3,600	3,100	8,200	6,900
4,400	4,100	8,200	7,000



$$y = ax + b$$

$$a = .82x + 186.39$$

$$r = .995$$

- Using your line of best fit, find y when x = 7,500.
- Using your line of best fit, find x when y = 2,341.
- Find your x- and y-intercepts and interpret them.

$$y = .82(7500) + 186.39$$

$$y = 6336.39$$

$$2341 = .82x + 186.39$$

$$-186.39 \quad -186.39$$

$$2154.61 = .82x$$

$$.82 \quad .82$$

$$2627.57 = x$$

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x-int

$$0 = .82x + 186.39$$

$$-186.39 \quad -186.39$$

$$-186.39 = .82x$$

$$.82 \quad .82$$

$$-227.30 = x$$

y-int

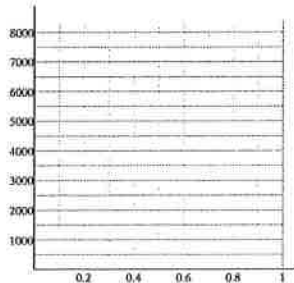
$$y = .82(0) + 186.39$$

$$y = 186.39$$

Construct a scatter plot. Then find the line of best fit.

8)

X	Y	X	Y
0.04	2,000	0.61	8,200
0.14	3,500	0.62	8,300
0.28	5,500	0.7	8,400
0.29	5,700	0.96	7,900
0.35	6,300	0.98	8,000



- Using your line of best fit, find y when x = 0.09.
- Using your line of best fit, find x when y = 1,123.
- Find your x- and y-intercepts and interpret them.

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