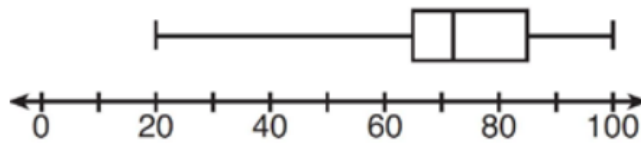


DO NOW

The box-and-whisker plot below represents the results of tests scores in a math class.



What do the scores 65, 85, and 100 represent?

- 1) Q_1 , median, Q_3
- 2) Q_1 , Q_3 , maximum
- 3) median, Q_1 , maximum
- 4) minimum, median, maximum

May 15-10:42 AM

HW Answers**Exercise 2**

(a) Yes (b) No (c) Yes (d) Yes

Exercise 3

NORMAL FLOAT AUTO REAL RADIAN MP 

LinReg

(a) $y = -8.1x + 68.1$ $y = ax + b$
 $a = -8.097351679$
 $b = 68.09350496$

(b) Negative Correlation (c) Slope

(d) $y = 33.27$ (e) $x = 3.469$

33 mpg

3500 lbs

May 12-6:51 AM

Other Types of Regression

EXPONENTIAL AND QUADRATIC GRAPHS

EXPONENTIAL GRAPHS

QUADRATIC GRAPHS

Calculator Instructions
-Linear Regression

- STAT
- 1: Edit...
- Type data into L1 & L2
- STAT
- CALC
- 4: LinReg

Calculator Instructions
-Exponential Regression

- STAT
- 1: Edit...
- Type data into L1 & L2
- STAT
- CALC
- 0: ExpReg

Calculator Instructions
- Scatter Plot

- STAT
- 1: Edit...
- Type data into L1 & L2
- 2nd
- y= (STATPLOTS)
- Turn on
- Zoom
- 9: ZoomStat

May 18-11:17 AM

Exercise # 1: For each scatterplot shown below, determine if it is best fit with a linear, exponential or quadratic function. Draw a curve of best fit depending on your choice.

Type: exponential

Type: quadratic

Type: exponential

Type: linear
negative correlation

Type: linear
positive correlation

Type: quadratic

May 22-1:45 PM

Exercise # 2: Biologists are modeling the number of flu cases as it spreads around a particular city. The total number of cases, y , was recorded each day, x , after the total first reached 16. The data for the first week is shown in the table below.

<u>x, days</u>	0	1	3	4	6	7
y , cases	16	18	22	25	33	35

(a) Use your calculator to find the exponential regression equation. Round all parameters to the nearest hundredth.

Exponential $y = ab^x$
 $y = 15.92 (1.12)^x$

(b) Based on the regression equation, how many total cases of flu will there be after two weeks?

$x = 14$ $y = 15.92 (1.12)^{14}$

$y = 77.8 \dots$

78 cases

(c) According to your model, by what percent are the flu cases increasing on a daily basis?

$b = \text{growth factor}$
 $b = (1 + \%)$
 $1.12 = (1 + ?)$

(d) Hospital officials will declare an emergency when the total number of cases exceeds 200. On what day will they need to declare this emergency?

x	y
22	192
23	215

? = .12
 12%

23 days

May 22-2:58 PM

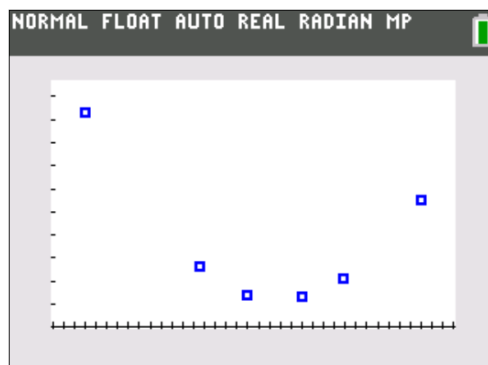
Exercise # 3: The cost per widget produced by a factory generally drops as more are produced but then starts to rise again due to overtime costs and wear on the equipment. Quality control engineers recorded data on the cost per widget compared to the number of widgets produced. Their data is shown below.

Number of widgets, x	35	88	110	135	154	190
Cost per widget, y	9.32	2.63	1.42	1.32	2.12	5.50

(a) Why should a quadratic model be considered for this data as opposed to linear or exponential?

the y -values at first decreased & then started to increase.

(b) Use your calculator to create a scatterplot of this data to verify its quadratic nature



May 22-2:36 PM