

STAT EDIT
 STAT CALC.
 $\frac{V}{1} = \text{VAR S. } \gg 1:$

$V_1 = \text{Exponential Regression}$

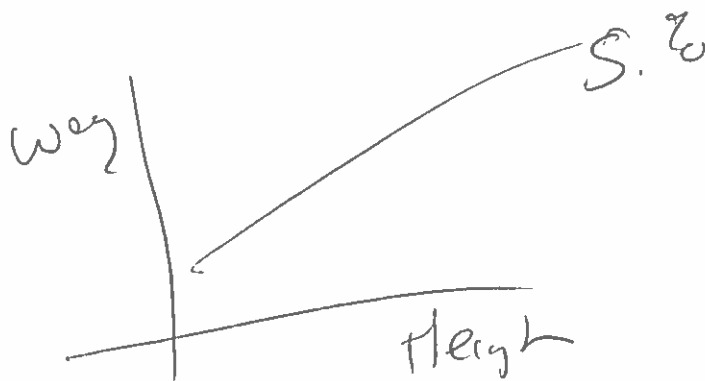
Table

0	23.01 = Q
T = 1	24.397 = P

$R = 0.9588$

5.85% growth

Lady G IS growing at
 5.85%



Compounded Semi-annually $N=2$

$$\$100 \left(1 + \frac{.05}{2}\right)^{5 \cdot 2} = 128.00$$

Quarterly $N=4$

$$100 \left(1 + \frac{.05}{4}\right)^{5 \cdot 4} = 128.20$$

Compounding Continuously

$$P = Q e^{RT}$$

Natural Exponent

$$e \approx 2.718$$

$$e^{1(1)} =$$

$$\$100 e^{.05 \cdot 5}$$

$$= \underline{\underline{128.40}}$$

$$100 e^{1(.05 \cdot 5)}$$

Most amount
you can make

Simple interest

$$I = PRT$$

↑ Interest ↑ Principal ↑ Rate ↑ Time

Percent %
÷ 100

$$\text{Have} = \$100 + \$100 \times .05 \times 5$$
$$\$100 + \$25$$

Compound Interest

$$P = Q \cdot \left(1 + \frac{R}{N}\right)^{N \cdot T}$$

P = Have

Q = Starting

R = Rate.

T = Time

N =

Interest on
Interest

$$\$100 (1 + .05)^5 = \$127.63$$

Compounding Annually

Population

$Q = 100,000$ people.

$R = .05$ population grows at 5%

$T = 4$ After 4 year

$$P = 105$$

$$Q = 100$$

$R =$ ~~0.05~~ ??? Lower than 5%

$$T = 1$$

Math O: Solver...
(B: Solver)

$$0 = P - Q e^{1(RT)}$$

$$P = 105$$

$$Q = 100$$

$$R = 0? \text{ <alpha> <enter>}$$

$$T = 1$$

Velveteer has a

half life of 20 months

Use

$$P = 8$$

$$Q = 16$$

$$R = \text{alpha} \text{ Enter}$$

$$T = 1.66 \dots$$

1.66 yrs.

Rate of Decay?

- .4156..

How long will

$$P = 1$$

$$Q = 16$$

$$R = -.41..$$

$$T = 6.66$$

it take to

go from 16oz

to 1oz?

6.66 years

GROUP NAME: We love math

Date: 2/27/14

Student Names (First and Last)

Speaker/Presenter: Craig S.

Writer/Prep: Victor F.

Leader/Collaborator: Zach L.

Independent Variable (x-axis): years

Dependant Variable (y-axis): property taxes

Conclusion (in words): growth rate ^{of property taxes} from year 2008 to year 2011 would be 13% for homeowners

Supporting Work: Compounding Interest

$P = 1,300$

$Q = 1,200$

$T = 3 \text{ yrs}$

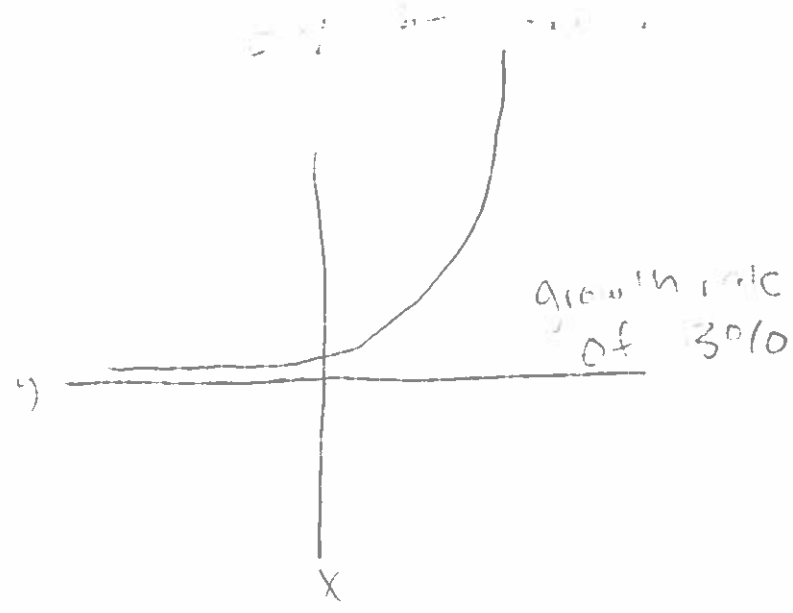
$R = .13$

Exponential Regression

$y = a \times b^x$

$a = 1,153$

$b = 1.04$



x	y
2008	1,200
2011	1,300

GROUP NAME:

Student Names (First and Last)

Date: _____

Speaker/Presenter: Byron

Independent Variable (x-axis): miles per hour

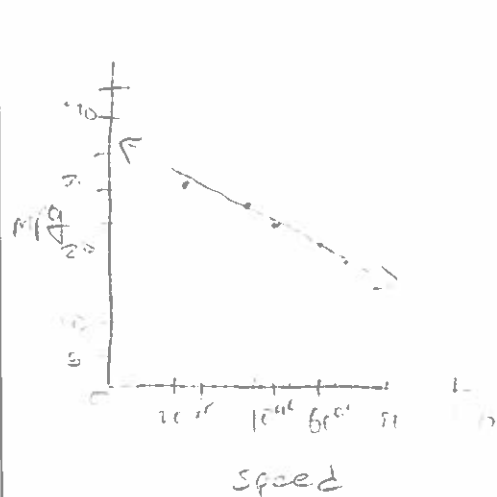
Writer/Prep: Paul Klos

Dependant Variable (y-axis): miles per gallon

Leader/Collaborator: Ricky

Conclusion (in words): If you travel 45 mph and slow down to 25 mph for half a year, you will save .4% of gas in your gas tank.

Supporting Work:



mph	mpg
L1	L2
25	30
45	28
50	25
65	21
70	19

Step 1 Calculate regression

STAT → **0**: **Enter**

Step 2 = insert data into y:

y= **vars** **5**: **(-)** **(-)** **1**: **Enter**

Step 3: format data

2nd **Window**

Input: ASK

2nd **Graph**

$y = 25 \text{ mph}$ $y = 31.688 \text{ mpg}$

$y = 45 \text{ mph}$ $y = 25.791 \text{ mpg}$

$P = 31.688$

$Q = 25.791$

$R =$

$T = .5$

$R = .4118$ percent of gas

GROUP NAME:

Date: 02/27/14

Student Names (First and Last)

Speaker/Presenter: Elyse Amponso

Independent Variable (x-axis): Price of weed

Writer/Prep: Cliford Basquin

Dependant Variable (y-axis): Profit of we make

Leader/Collaborator: Elyse Amponso

Conclusion (in words): Every year we sell weed for \$20, we make more profit. .0085 and .8

Supporting Work:

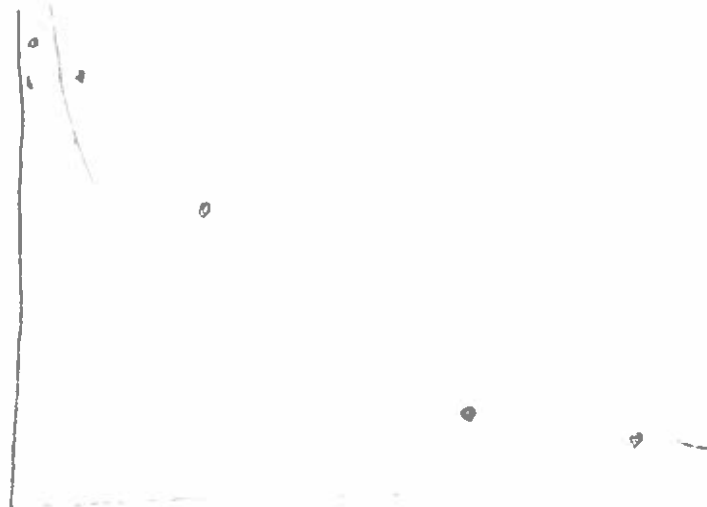
x	y
20	35
35	20
90	15
55	12
60	10
65	9

Exp Reg

$$y = a \cdot b^x$$

$$a = 139.521581$$

$$b = .9915597873$$



Growth

$$Q = 139.53$$

$$P = 132.61$$

$$T = 6$$

$$R = .00859$$

$$\text{bound} = (-1899, 1)$$

GROUP NAME: This Group, Best Group

Date: 2/27/14

Student Names (First and Last)

Speaker/Presenter: Jesse Schurman

Writer/Prep: Billy Rafferty

Leader/Collaborator: Stephen Burns

Independent Variable (x-axis): How many times per week you smoke

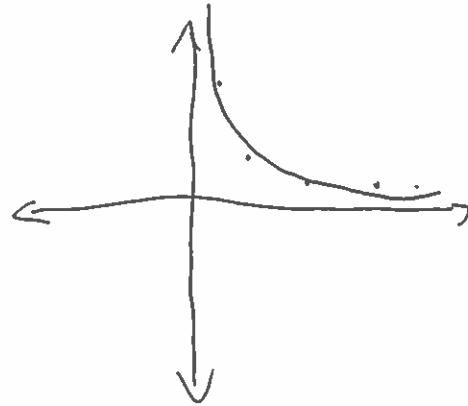
Dependant Variable (y-axis): How High You are

Conclusion (in words):

Our ~~dear~~ decay in highness is at a rate of 4.24%

Supporting Work:

Times Smoke	How High (In Chong Units)
1	500 chongs
2	200 chongs
3	100 chongs
4	75 chongs
5	55 chongs



$p = 55$

$Q = 500$

$T = \text{Weekly}$

$R = ?$

$0 = 55 - 500e^{(\text{---} R \cdot 52)}$

$R = 4.24\% \text{ Decrease}$

GROUP NAME:

Student Names (First and Last)

Date: February 27, 2014

Speaker/Presenter: Benjamin J. Lewis

Independent Variable (x-axis): height

Writer/Prep: Blake Bittel

Dependant Variable (y-axis): weight

Leader/Collaborator: Kevin Leonard

Conclusion (in words):

your weight increases 5.59% for every inch you grow

Supporting Work:

$$P = Qe^{RT}$$

X	Y
64"	125 lbs
65	140
68	160
70	180
72	200

$$P = Qe^{RT}$$

x	y
60	102.57
65	135.71

5.59% (next to 60) 33.26 lbs (next to 65)

$$Q = P - Qe^{RT}$$

$$P = 135.71$$

$$Q = 102.57$$

$$R = x$$

$$T = 5$$

$$x = 0.0559$$

$$5.59\%$$

↑ inches (not time)

GROUP NAME: Inverdis
 Date: 2/2/14
 Independent Variable (x-axis): years
 Dependant Variable (y-axis): popul = mil

Student Names (First and Last)
 Speaker/Presenter: Zolboo Passari
 Writer/Prep: Alana Cortese
 Leader/Collaborator: Dorian Thomas

Conclusion (in words):
 NJ population from 2007 to 2011 increased at 7% in those 4 years (Exponential Growth)

Supporting Work:

4	8 million
12	10 million

$P = 8$ million
 $t = 8$ years
 $r = .07 = .07 = 7\%$

$y = 0.8412... * 1.07$

GROUP NAME: <u>Math Lovers</u>	Student Names (First and Last)
Date: <u>22/02/14</u>	Speaker/Presenter: <u>Aaron Roberts</u>
Independent Variable (x-axis): <u>Price (iphone)</u>	Writer/Prep: <u>Karthik</u>
Dependant Variable (y-axis): <u>Sell (iphone)</u>	Leader/Collaborator: <u>Nour Chamma</u>

Conclusion (in words):
 Every year our sales would go down because of our percentage - 12%.

Supporting Work:

price X	sell Y _i
\$110	80
\$120	70
\$150	65
\$170	50
\$180	38
\$190	25

Exp Reg

$$Y = a * b^X$$

$$a = 331.3367251$$

$$b = .9878511211$$

X	Y _i
0	331.34
5	311.69

$$P - Ae^{x(RT)} = 0$$

$$P = 301.34$$

$$a = 331.69$$

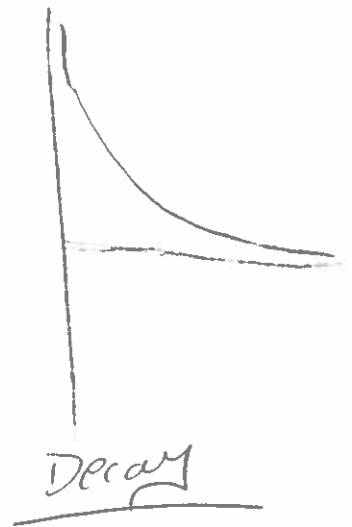
$$R = \text{Alpha Entry}$$

$$T = 5$$

$$\text{band} = (-1E99)$$

$$R = -.01772$$

$$- 1.9$$



GROUP NAME: <u>Money Bags</u> Date: <u>2/27/14</u>	Student Names (First and Last) Speaker/Presenter: <u>Melissa Scarpati</u> Writer/Prep: <u>Angelica Ippolito</u> Leader/Collaborator: <u>Kevin Enriquez</u>
Independant Variable (x-axis): <u>Time Time</u>	
Dependant Variable (y-axis): <u>Bacteria Growth</u>	

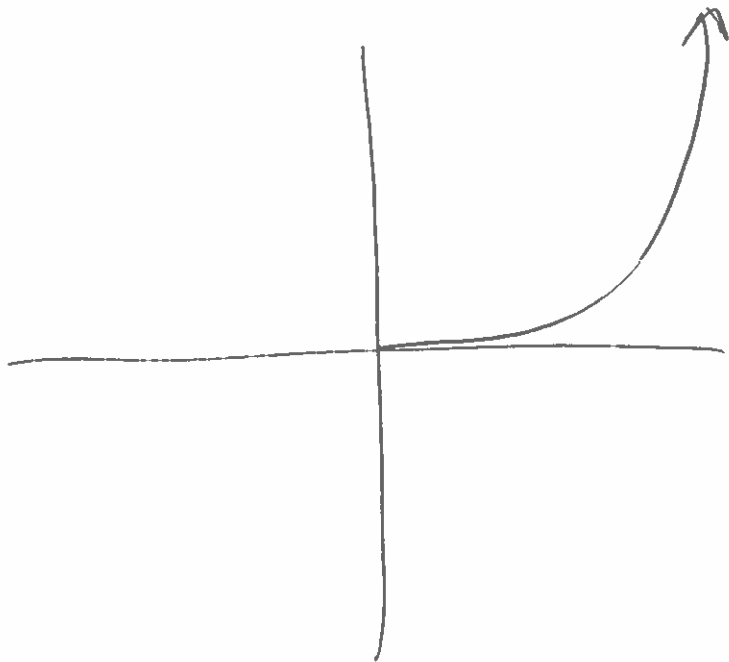
Conclusion (in words):

Germs grow on your hands at a rate of 40.58% per hour.

Supporting Work:

<u>Stat</u> Edit	L1	L2
	0	1
	4	6
	8	25
	12	130
	16	650
	20	3325
	24	16834

$$r = .4059 = \frac{\times 100}{\cancel{100}} = 40.58\%$$



STAT CALC 0:

$$y = a \cdot b^x$$

$$a = .9896460795$$

$$b = 1.50061614$$

Y= VARS 5: (>) 1:

2nd GRAPH

~~200~~

T	X	Y ₁	
	0	.98965	← Q
	→ 1	1.4851	← P

GROUP NAME: We love science

Date: 2-27-14

Student Names (First and Last)

Speaker/Presenter: Lacie Kenneh

Independent Variable (x-axis): time (min)

Writer/Prep: Marta Truszkowski

Dependant Variable (y-axis): # cupcakes

Leader/Collaborator: Abigayle Paschke

Conclusion (in words): ~~the~~ cur growth rate is ~~0.28%~~ 2.8% for 40 min

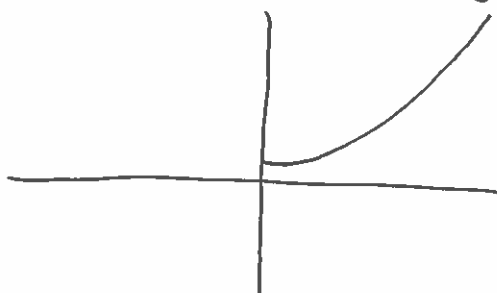
Supporting Work:

x	y
24	24
35	48
47	72
67	96
78	120

stat ② 0:

$$y = 15.94... \times 1.03...^x$$

y=1 Vars 5: ② ② 1: graph



2nd Table

Math 0:

20	27Q
60	82P
T 40min	

$$R = 0.028 \cdot 100\% = 2.8\%$$