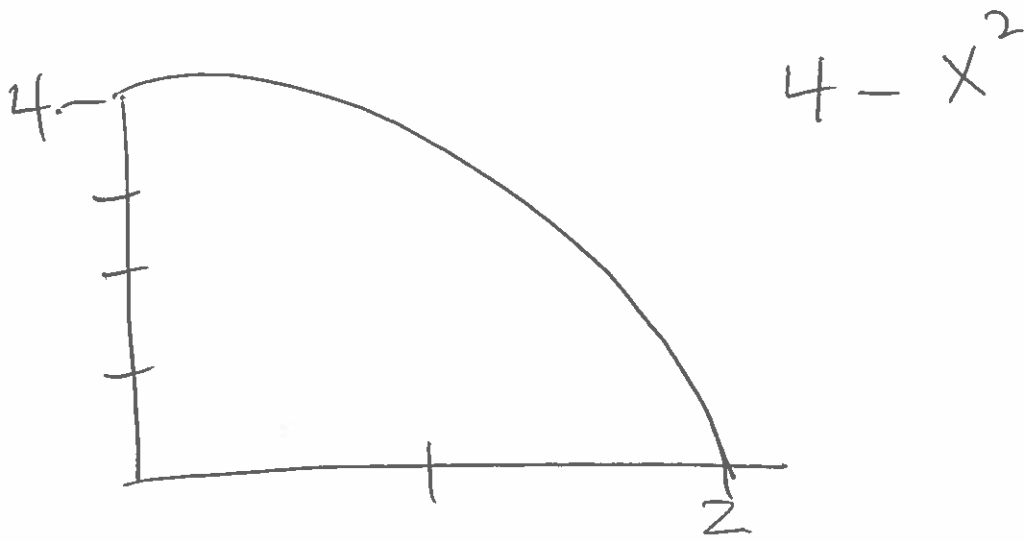
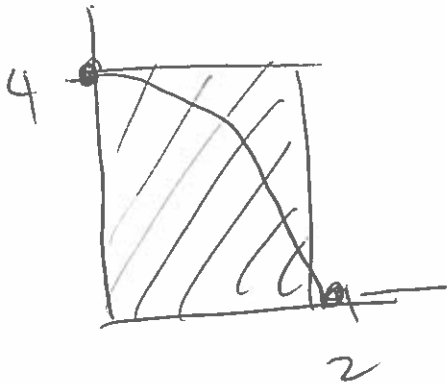


Area Under a Curve

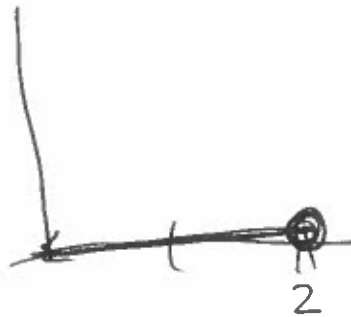


Approximate Area w/ Rectangles



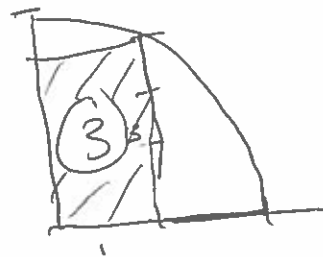
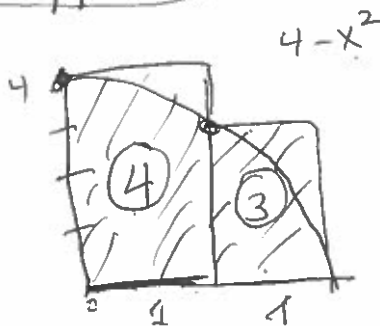
$n = 1$ rectangle
Left Side

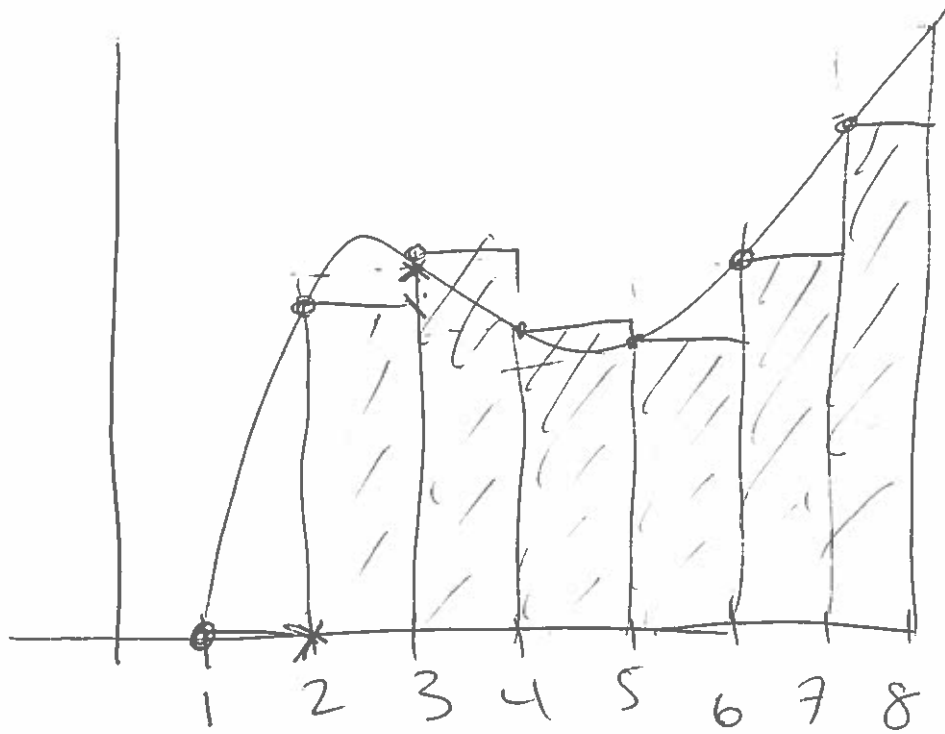
$$A \approx 8$$



$n = 1$ rectang
Right Side

$$A \approx 0$$

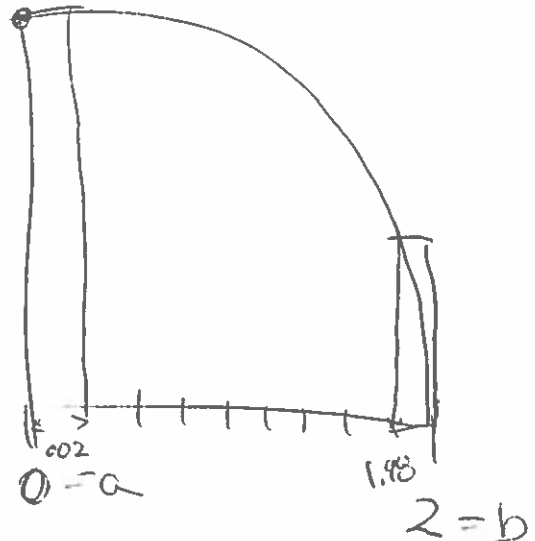




Left •

Right - x

Much Smaller



$$\Delta x = \frac{b-a}{n} = \frac{2-0}{100} = \frac{1}{50}$$

$$= .02$$

START: 0

END: $2 - \Delta x = 1.98$

$\Delta x = .02$

$n = 100$

$$\text{Sum}(\text{seq}(4-x^2, x, 0, 1.98, .02)) \times .02 = 5.37$$

GROUP NAME:	Student Names (First and Last)
Date: _____	Speaker/Presenter: <u>Shanon Isoe</u>
Independent Variable (x-axis): _____	Writer/Prep: <u>Inur Turkay</u>
Dependant Variable (y-axis): _____	Leader/Collaborator: _____

Conclusion (in words):

Supporting Work:

$$\text{Ave.}(n) = \left(\sum_{i=1}^n A \left(a + \frac{b-a}{n} i \right) + B \right) \frac{b-a}{n}$$

$$\left(\frac{Ab}{n} - \frac{Aa}{n} \right)$$

$a = 18$

$b = 23.45$

$A = 1.146 \dots$

$B = -15.23 \dots$

$$\sum_{i=1}^n 1.146 \left(18 + \frac{23.45 - 18}{n} i \right) - 15.23$$

≈ 658.9142

GROUP NAME: Cha-Ching

Date: 4/14/14

Independent Variable (x-axis): Years

Dependant Variable (y-axis): Revenue

Student Names (First and Last)

Speaker/Presenter: Trey Murrill

Writer/Prep: Sheila Mae Gan

Leader/Collaborator: Tatiana Calderon

Conclusion (in words):

Supporting Work:

L ₁	L ₂
13	35
12	27
11	24
10	17
9	16

$4.8x - 28.6$
~~4.8x - 28.6~~

Lin Reg
a = 4.8
b = -28.6

$$A_{reg}(n) = \left(\sum_{i=1}^n A \left(a + \frac{b-a}{n} i \right) + B \right) \frac{b-a}{n}$$

$$A_{reg}(n) = \left(\sum_{i=1}^n 4.8 \left(9 + \frac{13-9}{n} i \right) + 28.6 \right) \frac{13-9}{n}$$

$$43.2 + \left(\frac{4.8}{n} - \frac{43.2}{n} \right) i + 28.6$$

$$\frac{18.8}{n} \sum_{i=1}^n i + \sum_{i=1}^n 43 + 28.6$$

GROUP NAME: <u>Polatz Beatz</u> Date: _____	Student Names (First and Last) Speaker/Presenter: <u>Kausalya Manjun</u> Writer/Prep: <u>Frehiwat Bekele</u> Leader/Collaborator: _____
Independant Variable (x-axis): <u>years</u> Dependant Variable (y-axis): <u>deaths</u>	

Conclusion (in words):

$A = .13$
 $B = -259.01$
 $a = 2009$

Supporting Work:

Lin Reg: $y = ax + b$ $b = 2013$
 $a = .13$
 $b = -259.01$

$\rightarrow \sum_{i=1}^n (.13 \left(\frac{i}{n}\right) + -259.01)$
 $\rightarrow \left(\sum_{i=1}^n .13 \left(2009 + \frac{2013 - 2009}{n} i \right) + -259.01 \right) \left(\frac{2013 - 2009}{n} \right)$
 $\rightarrow .13(2009) + \left(\frac{.13(2013)}{n} - \frac{.13(2009)}{n} \right) i + -259.01$
 $\rightarrow \left(\frac{.13(2013)}{n} - \frac{.13(2009)}{n} \right) (1+n) \left(\frac{n}{2} \right) + (.13(2009) + -259.01)n$

Data

x	y
2009	2.1
2010	2.3
2011	2.6
2012	2.4
2013	2.7

GROUP NAME:	Student Names (First and Last)
Date: <u>04/14/14</u>	Speaker/Presenter: _____
Independent Variable (x-axis): <u>time (hours)</u>	Writer/Prep: <u>Karol Zariski</u>
Dependant Variable (y-axis): <u>memory usage (MB)</u>	Leader/Collaborator: _____

Conclusion (in words):

Supporting Work:

$$A = 395$$

$$B = 1180$$

$$a = 1$$

$$b = 4$$

$$\sum_{i=1}^n 395 \left(1 + \frac{3}{n} i \right) + 1180$$

$$\left(\frac{1580}{n} - \frac{395}{n} \right) \sum_{i=1}^n i + 1575n$$

$$\left(\frac{1580}{n} - \frac{395}{n} \right) (1+n) \left(\frac{n}{2} \right) + 1575n$$

GROUP NAME: <u>Money makers</u>	Student Names (First and Last)
Date: <u>4/14/14</u>	Speaker/Presenter: <u>Brian S</u>
Independent Variable (x-axis): <u>year (time)</u>	Writer/Prep: <u>Monica K</u>
Dependant Variable (y-axis): <u>rate percentage</u>	Leader/Collaborator: <u>Brian O. Edna</u>

Conclusion (in words):

Supporting Work:

X	Y
2009	.75
2010	.52
2011	.59
2012	.44
2013	-.39

Cubic Reg = Y_1

$$\text{Sum}(\text{seq}(Y_1, X, 09, 13, .8)) \cdot 8 = 2.269$$

Lin Reg

$$Y = ax + b$$

$$A = -.08$$

$$B = 1.48$$

$$a = 2009$$

$$b = 2013$$

$$\sum_{i=1}^n \left(.08 \left(2009 + \frac{2013 - 2009}{n} i \right) + 1.48 \right)$$

GROUP NAME: Jody, Ryan, etc.
 Date: 4/11/18

Student Names (First and Last)
 Speaker/Presenter: Ryan Piotrowski
 Writer/Prep: Brian B...
 Leader/Collaborator: Danyan Zhou

Independent Variable (x-axis): years
 Dependent Variable (y-axis): g.p.m.

Conclusion (in words):

Supporting Work:

x	y
95	1
100	1.54
105	2.5
110	3
115	2.5

Linear

$$y = mx + b$$

$$n = .006100$$

$$b = 18.10$$

$$r = .91$$

$$r^2 = .8281$$

$$r^2 = \frac{(\sum xy - \frac{\sum x \sum y}{n})^2}{(\sum x^2 - \frac{(\sum x)^2}{n})(\sum y^2 - \frac{(\sum y)^2}{n})}$$

$$= \frac{(-0.92 - .006)^2}{(110 - \frac{1000}{n})(10 - \frac{10}{n})}$$

(15, 1) (95, 1.5)

11, 13

GROUP NAME: (BEST FRIENDS) - ELLIOT

Student Names (First and Last)

Date: 4-14-2014



Speaker/Presenter: VINNIE AUHAD

Independent Variable (x-axis): YEARS

Writer/Prep: LAUREN DOGO

Dependant Variable (y-axis): CARSALES

Leader/Collaborator: _____

Conclusion (in words):

Supporting Work:

$$AREA(N) = \left[\sum_{i=1}^N A \left(a + \frac{b-a}{N} i \right) + B \right]$$

$$= Aa + \left(\frac{Ab}{N} - \frac{a^2}{N} \right) i + B$$

$$\frac{Ab}{N} - \frac{Aa}{N} \sum_{i=1}^N i \quad \text{IF} \quad \sum_{i=1}^N Aa + B$$

$$\frac{Ab}{N} - \frac{Aa}{N} (1+N) \left(\frac{N}{2} \right) + (Aa + B)N$$

$$y = ax + b$$

$$A. a = 21672.5$$

$$B = b = -163857680.9$$

$$2009 = a$$

$$2013 = b$$

GROUP NAME: <u>W. H. O.</u> Date: <u>4/15/14</u>	Student Names (First and Last) <u>Charles, Michael</u> Speaker/Presenter: _____ Writer/Prep: <u>Jenna + Kathlene</u> Leader/Collaborator: <u>Cathryn</u>
Independant Variable (x-axis): <u>years</u>	Dependant Variable (y-axis): <u>steroid levels in ppm</u>

Conclusion (in words):

Supporting Work:

L1	L2
0.01	122
3	100
6	143
9	200
12	170

Linreg $Ax + B$

$A = 6.5... \approx 7$

$B = 107.7... \approx 108$

$\Delta x = \frac{b-a}{n} = \frac{12-0}{n} = \frac{12}{n}$

$a = 0$
 $b = 12$

$\left(\sum_{i=1}^n 7x + 108 \right) \Delta x$

$\sum 7 \left(\left(0 + i \frac{12}{n} \right) + 108 \right) \frac{12}{n}$

$\sum \left(0 + \frac{84}{n} i + 756 \right) \frac{12}{n}$

$\sum \left(756 + \frac{84}{n} i \right) \frac{12}{n}$

$\left(\sum 756 + \sum \frac{84}{n} i \right) \frac{12}{n}$

$\left(\sum 756n + \frac{84}{n} (n+1) \left(\frac{n}{2} \right) \right) \frac{12}{n}$

$\frac{756(12) + 84 \cdot 12 \cdot \cancel{n} \cdot n + 1}{\cancel{n} \cdot n}$

$A(n) = 9072 + \frac{1008}{2} \frac{(n+1)}{n}$

<p>GROUP NAME: <u>P minions</u></p> <p>Date: <u>4/15/14</u></p>	<p>Student Names (First and Last)</p> <p>Speaker/Presenter: <u>Dallen / Kero</u></p>
<p>Independent Variable (x-axis): <u>years</u></p> <p>Dependant Variable (y-axis): <u>tuition \$</u></p>	<p>Writer/Prep: <u>Jenn</u></p> <p>Leader/Collaborator: <u>Jason / Daniella</u></p>

Conclusion (in words):

Supporting Work:

linear res

$$49.8x + 2767.6$$

$$a = 10$$

$$b = 14$$

$$\Delta x = \frac{14 - 10}{n} = \frac{4}{n}$$

$$\left(\sum_{i=1}^n 49.8 \left(10 + \frac{4}{n}i \right) + 2767.6 \right) \frac{4}{n}$$

$$\left(\sum 498 + \frac{199.2}{n} i + 2767.6 \right) \frac{4}{n}$$

$$\left(\sum 3265.6 + \frac{199.2}{n} i \right) \frac{4}{n}$$

$$\left(\sum 3265.6 + \sum \frac{199.2}{n} i \right) \frac{4}{n}$$

$$\left(3265.6n + \frac{199.2}{n} (n+1) \left(\frac{n}{2} \right) \right) \left(\frac{4}{n} \right)$$

$$\frac{3265.6(4) + \frac{199.2 \cdot 4 \cdot n \cdot (n+1)}{2n}}$$

$$A(n) = 13062.4 + \frac{796.8}{n} (n+1)$$

EXACT
13460.8

$$\text{sum}(\text{seq}(y, x, 10.4, 14, .4)) * .4$$

Sum seq = 13500 10 right
A(10) 13500 10 right

GROUP NAME: <u>Fluffy Ponies</u> Date: <u>4/15/14</u>	Student Names (First and Last) Speaker/Presenter: <u>M. / Jan / Ahmed</u>
Independant Variable (x-axis): <u>Income</u> Dependant Variable (y-axis): <u>crime rate.</u>	Writer/Prep: <u>Courtney</u> Leader/Collaborator: <u>Tyler June</u>

Conclusion (in words):

Supporting Work:

linear regⁿ:

$$y = -.0011x + .3418$$

$$\left(\sum_{i=1}^n -.0011 \left(20 + \frac{80}{n} i \right) + .3418 \right) \frac{80}{n}$$

$$\left(\sum -.022 + \frac{.088}{n} i + .3418 \right) \frac{80}{n}$$

$$\left(\sum .326 - \frac{.088}{n} i \right) \frac{80}{n}$$

$$\left(\sum_{i=1}^n .326 - \sum \frac{.088}{n} i \right) \frac{80}{n}$$

$$\left(.326n - \frac{.088}{n} (n+1) \left(\frac{n}{2} \right) \right) \frac{80}{n}$$

$$26.08 - \frac{.088 \cdot 80 \cdot n \cdot n + 1}{n}$$

$$A(n) = 26.08 - \frac{7.04(n+1)}{2n}$$

$$A(n) = 26.08 - \frac{3.52(n+1)}{n}$$

a = 20
 b = 100
 $\Delta x = \frac{100-20}{n} = \frac{80}{n}$