Sigma Notation

$$\sum_{i=a}^{b} f(i) = f(a) + f(a+1) + \dots f(b)$$

$f(i)$ ← argument

$i = a$ ← index

$$\sum_{i=1}^{6} (9i+3) =$$

$i=1$ $\quad 9(1)+3$

$i=2$ $\quad 9(2)+3$

$i=3$ $\quad 9(3)+3$

$i=4$ $\quad 9(4)+3$

$9(5)+3 \quad 9(6)+3$

$$= 12 + 21 + 30 + 39 + 48 + 57$$

$$= 207$$

$= sum(seq(9X+3, X, 1, 6, 1))$

LIST → 2nd STAT → 5: sum(

LIST → ◀ → 5: seq(

LIST → ▶ OPS 5: seq(

OR

$$\sum_{i=1}^{6} 3 = 3 \times 6 = 18$$

$$\sum_{i=1}^{6} 9i = 9 \sum_{i=1}^{6} i$$

$$1 + 2 + 3 + 4 + 5 + 6$$

$$\boxed{\sum_{i=1}^{n} i = (1+n)\left(\frac{n}{2}\right)}$$

$$\sum_{i=1}^{6} 9i + 3 = \sum_{i=1}^{6} 9i + \sum_{i=1}^{6} 3$$

$$= 9 \sum_{i=1}^{6} i + \sum_{i=1}^{6} 3$$

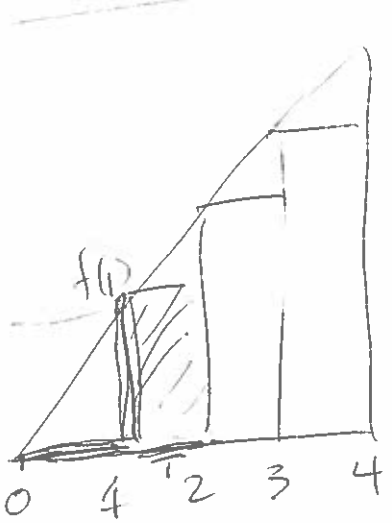
$$9\left((6+1)\frac{6}{2}\right) + 3 \times 6$$

$$= 9 \times 21 + 18$$

$$= 189 + 18 = \underline{207}$$

$$\sum_{i=1}^{n} Ai + B$$

$$= A\left(n+1\right)\left(\frac{n}{2}\right) + Bn$$



$n = 4$ rectangles

$$\text{Area} = f(0) + f(1) + f(2) + f(3)$$

$$0 + f(1)\cdot 1 + f(2)\cdot 1 + f(3)\cdot 1$$

HEIGHT · WIDTH

$$\sum_{i=0}^{4} f(i)\cdot 1$$

$n = 8$ rectangles

$$\sum_{i=0}^{8} f\left(\frac{i}{2}\right)\cdot .5$$

width

$$\sum_{i=0}^{160} f\left(\frac{i}{4}\right) \cdot .25 \qquad n = 160 \text{ rectangles}$$

(.25 = width)

$$\sum_{i=0}^{32} f\left(\frac{i}{8}\right) \cdot \frac{4}{32} \qquad n = 32 \text{ rectangles}$$

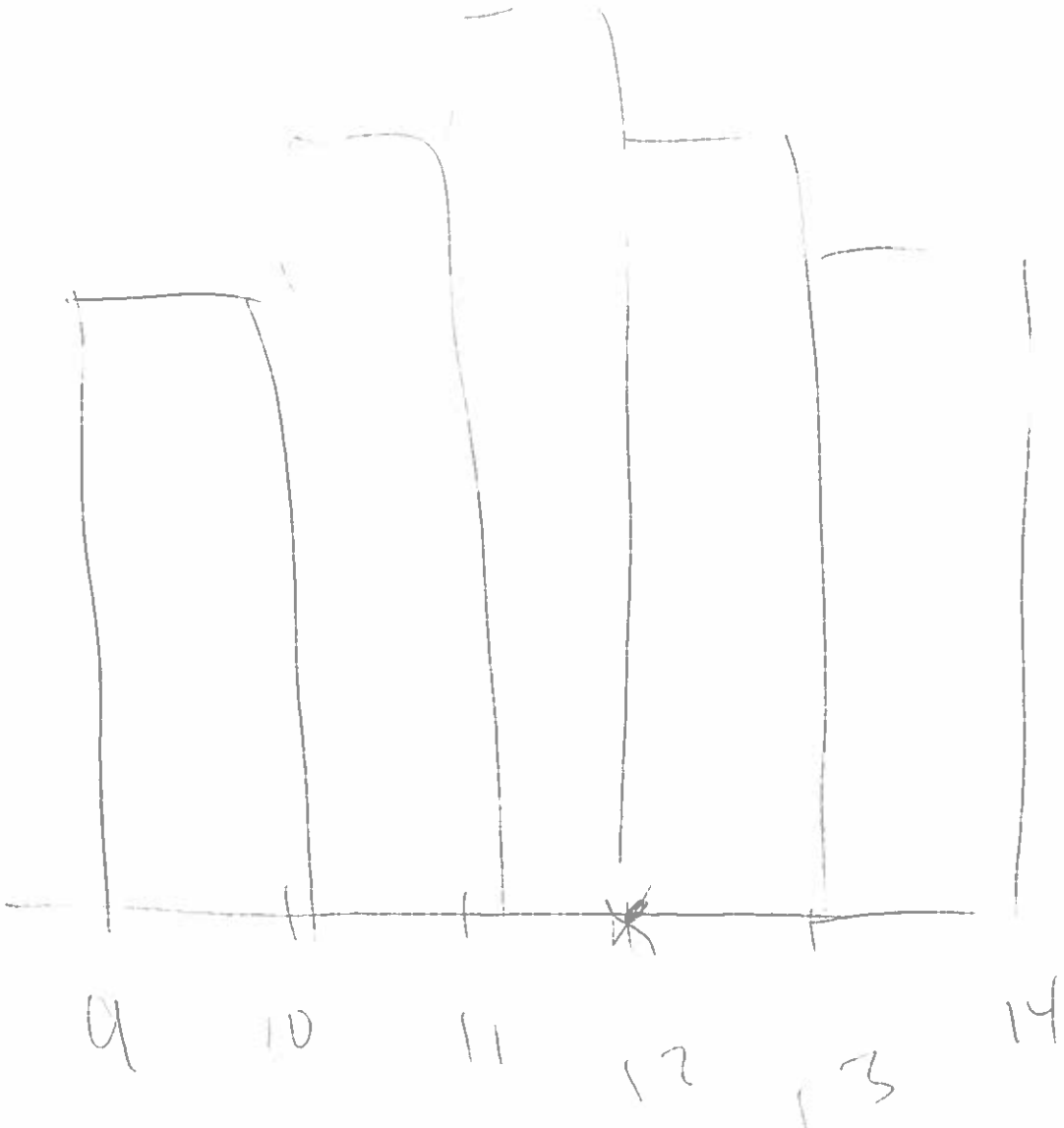
$$\sum_{i=1}^{n} f\left(\frac{i\,4}{n}\right) \cdot \frac{4}{n} \qquad \text{"}n\text{" rectangles}$$

($\frac{i\,4}{n}$ = height; $\frac{4}{n}$ = width)

$f(x) = Ax + B$

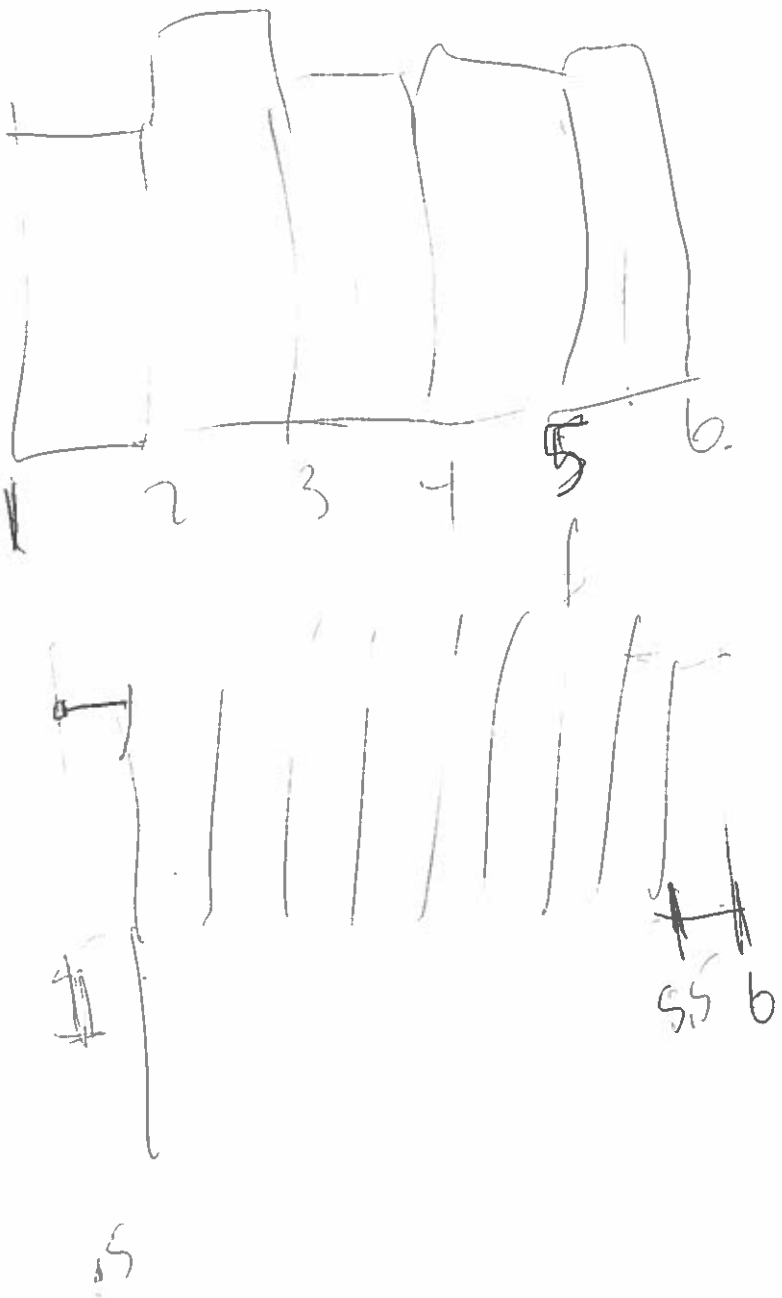
$$\lim_{n\to\infty} \frac{a_1 n^2 + \cdots}{a_2 n^2 + \cdots} = \boxed{\frac{a_1}{a_2}}$$

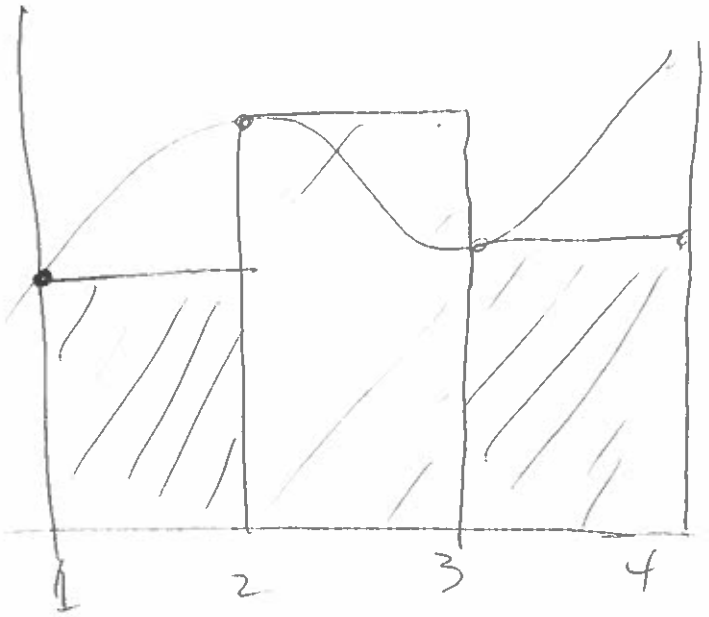
$$\boxed{\sum_{i=1}^{n} i^2 = \frac{n\cdot(n+1)(2n+1)}{6}}$$



sum(seq(y_1, x, a, b, Δx)) * $\frac{\Delta x}{2}$

first last change

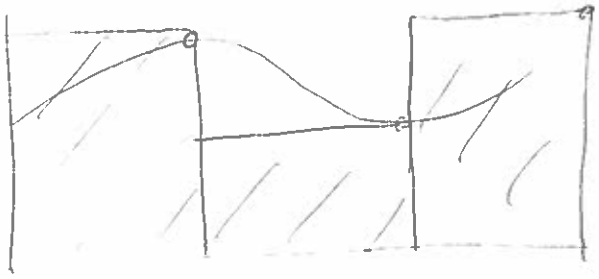

1
2
3
4
5
6.
5,5
6
5



Approx area with 3 rectangle.

Evaluated at Left Endpoint

$$(f(1) + f(2) + f(3)) \cdot \text{width} = 1$$



$f(2) + f(3) + f(4)$

GROUP NAME: The [illegible]	**Student Names (First and Last)**
Logo:	**Speaker/Presenter:** Ethan Stewart
Date: _____	**Writer/Prep:** [illegible]
Topics:	**QC/Leader:** _____

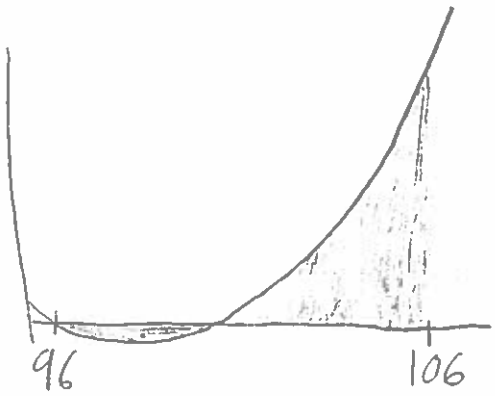
Instructions:

GROUP NAME: Wolf Pack	**Student Names (First and Last)**
Logo:	**Speaker/Presenter:** D
Date: 11/13/13	**Writer/Prep:** Jared
Topics:	**QC/Leader:** Quay

Instructions:

Y_1 = Cubic Reg

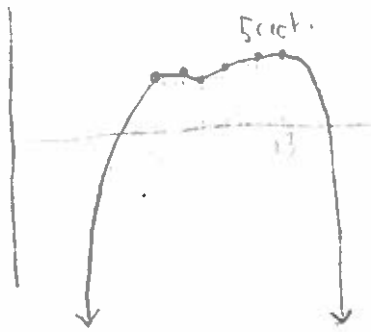
$\text{Sum}(\text{seq}(Y_1, X, 96, 105.75, .25) \times .25 = 24{,}247.12627$



$= 25{,}465.8$

GROUP NAME: The Scientists	**Student Names (First and Last)**
Logo:	**Speaker/Presenter:** Nicole
Date: 9/13/13	**Writer/Prep:** Dorin
Topics: Calc	**QC/Leader:** Kiersten

Instructions:



sum(seq(y, x, 8, 13, 1) = 5084

sum(seq(y, x, 8, 13, .5) x .5 = 4676.160156

width of each rect: .1

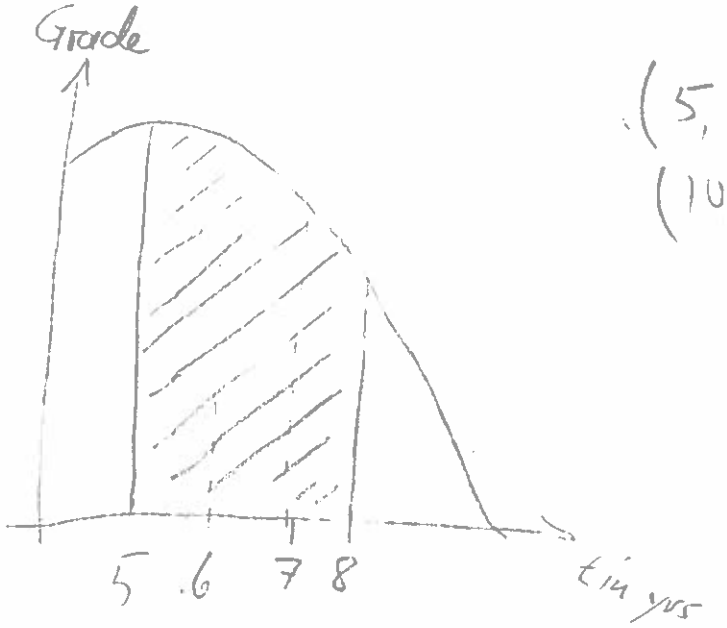
sum(seq(y, x, 8, 13, .1) x .1 = 4346.732656

actual answer: 42639236

GROUP NAME: Math, it's **Logo:**	**Student Names (First and Last)** **Speaker/Presenter:** Kylie Ingram
Date: 11/13/2013 **Topics:**	**Writer/Prep:** Katy Caldwell **QC/Leader:** Jackie Powell

Instructions:

(sum(seq Y1, x, 5, 7, 1)) = 279 more

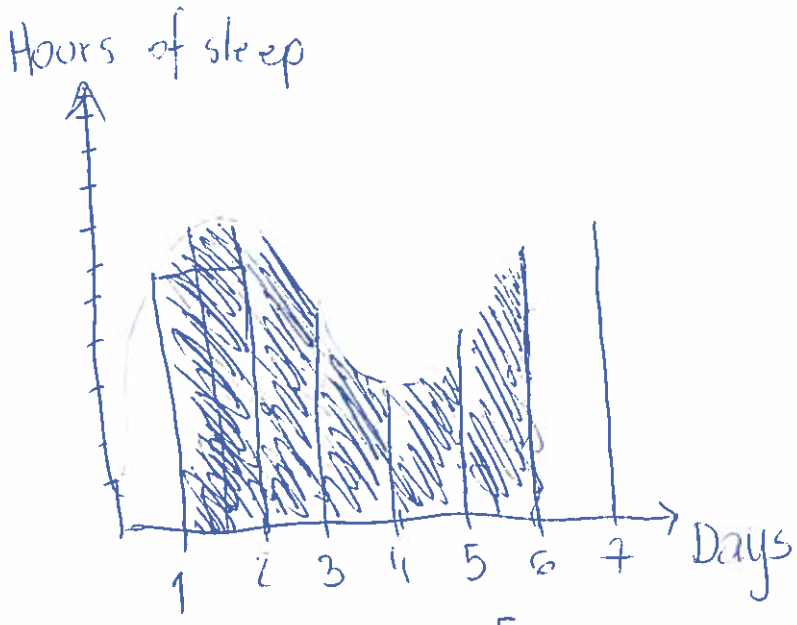


(5, 99.437)
(10, 62.6349)

Last time was 162 = (sum(seq Y1, x, 5, 7.99, 0.01)

GROUP NAME: Apples 2 Apples **Logo:**	**Student Names (First and Last)** **Speaker/Presenter:** ANNA S
Date: 11/12/15 **Topics:**	**Writer/Prep:** ANNA S **QC/Leader:** ANNA S

Instructions: Rectangles under the curve



sum(seq(y1, x, 1, 5, 1) = 37.30411663

last time:

before: $\int f(x)dx$ = 30.29472 hours of sleep

PROF. PORTER

MATH CLASSWORK

GROUP NAME: Time Is Money Logo: 	Student Names (First and Last) Speaker/Presenter: Angelika Mazurek Writer/Prep Shiv Singh QC/Leader: Eugenio Pelaez
Date: 11/13/13 Topics:	

Instructions:

Sale of IPhone 4S

Y_1 = Quad Reg

[2nd] [STAT]

(>) (>)

[2nd] [CALC]

$\int f(x)\,dx$ [476.44...]

IPhone 4S Sales.

Ex) 1

Variable x

Start 1

End 5

Step .01

476.445

?

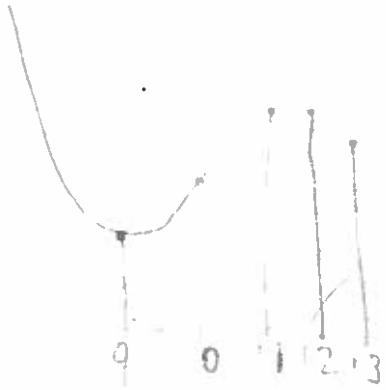
need

→ integral

GROUP NAME: CSC **Logo:**	**Student Names (First and Last)** **Speaker/Presenter:** Correa Lane
Date: 11/13/12 **Topics:**	**Writer/Prep:** Courtney Smith **QC/Leader:** Stephen Smith

Instructions:

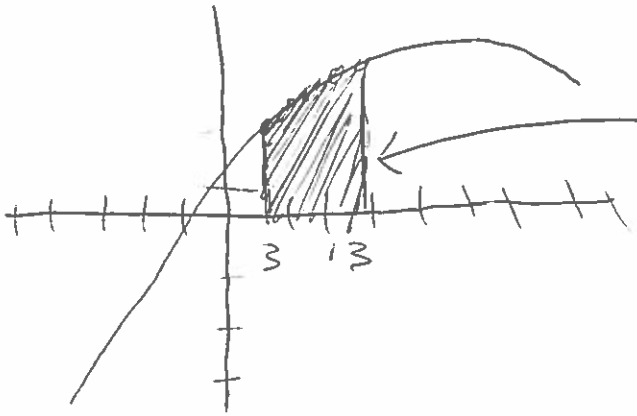
sum(seq(Y1, X, 0, 12)) = 1480.55 yr/price 3rd. price
4 yr



last time = 409. price

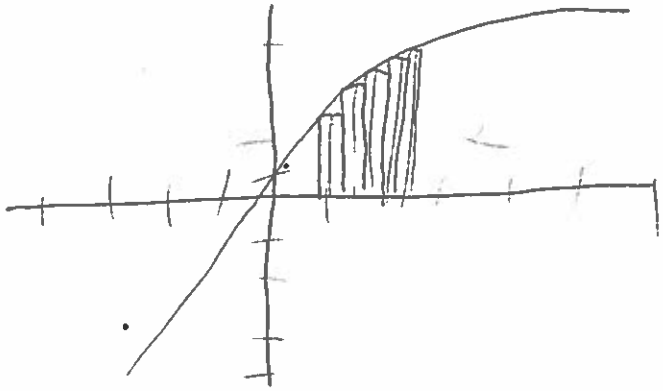
GROUP NAME: IRISH MATH BOMBS **Logo:** 	**Student Names (First and Last)** **Speaker/Presenter:** Bobby O'Connor
Date: _____ **Topics:**	**Writer/Prep:** Conner Kruysman **QC/Leader:** Bill's Olde tavern

Instructions:



174.07738

$$\sum_{X=3}^{13} (-.0083)x^2 + (1.1857) + 9.5366 = 169.8978$$



10 rectangles