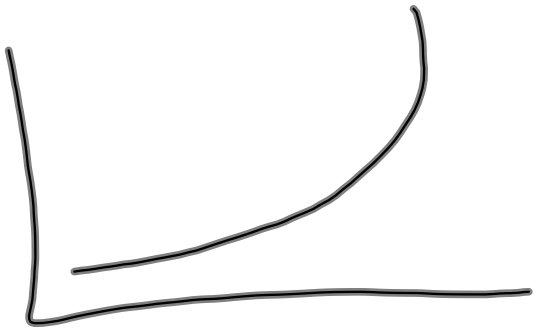
Pg120 #30

| | I | I and R | C | E | O |
|---|---|---|---|---|---|
| % | 42 | 40 | 9 | 3 | 6 |
| Amt. | 908M | 865M | 195M | 65M | 129M |

2.162B

Pg 103 #15



10, 15, 20, 30, 50

Pg 143 #10

| h | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| b | 1 | 2 | 4 | 8 |

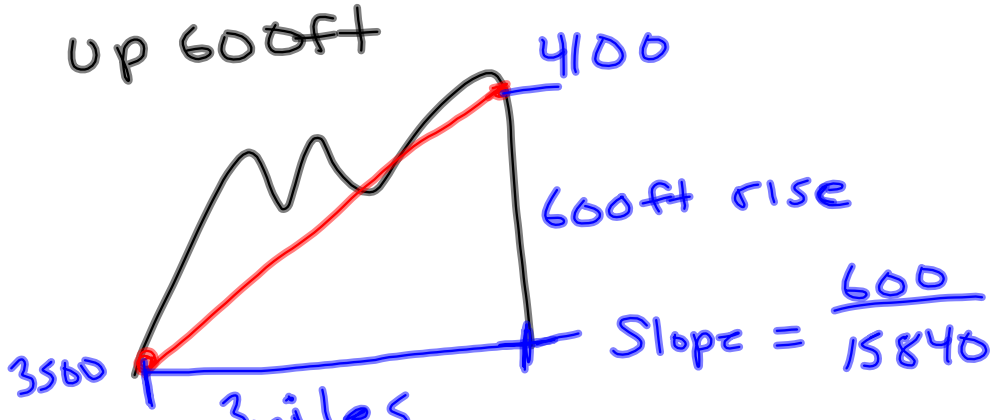
+1 +2 +4

Not Linear

pg143 #15

3500 – 4100 ft

up 600ft




$\text{Slope} = \frac{600}{15840}$

$5280 \cdot 3 = 15840$ $= .038$

$E = .038h + 3500$

pg143 #20

Slope = 17 m/s

y-Int = 1534 m/s

$S = 17d + 1534$

Pg 144 #30-32

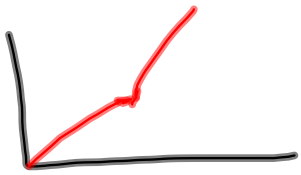
starting 2003

$\$ = .178y + 1.952$

$y = 2006$ $\$ = 2.486$ Trillion

$\$ = .178(3) + 1.952$

Pg 145
#50

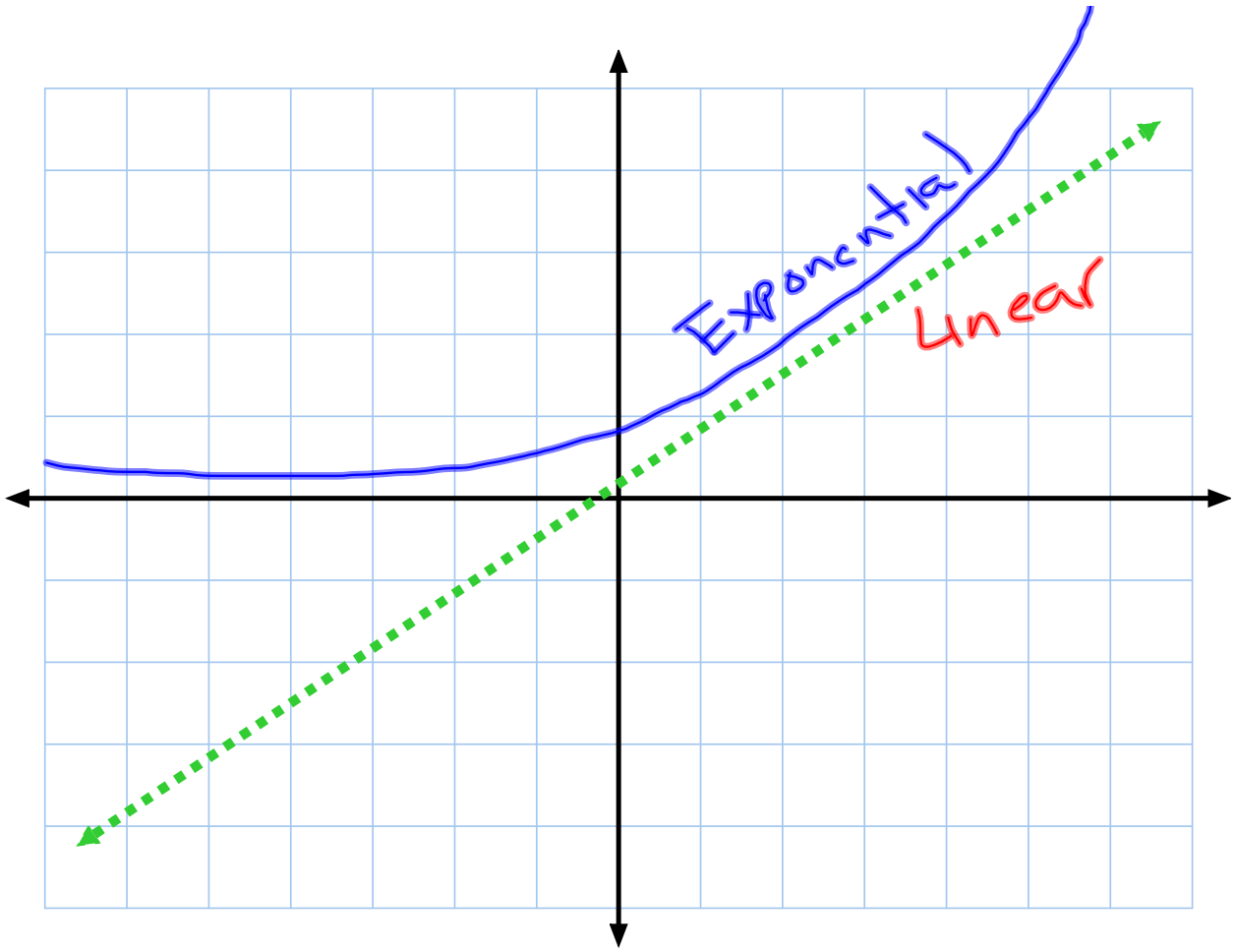


1) $15
2) $15
3) $15
4) $15
5) $18
6) $25
7) $25
8) $25
9) $25
10) $25

67500 - 67900
$y = 15x + 9291$

68000
$y = 9369$

68100 - 68600
$y = 25x + 9394$


Exponential
Linear

Pg 143 #10

| h | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| B | 1 | 2 | 4 | 8 |

×2 ×2 ×2

Not Linear

$2 \cdot 2 \cdot 2 = 2^3$

$B = 2^h$

↑ exponential equation

Linear → $y = mx + b$

$m$ = rate

$b$ = starting point

exponential → $y = a(1+r)^x$

$a$ = starting point

$r$ = rate

ex 3.8

| h | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| P | 100 | 300 | 900 | 2700 |
| | | x3 | x3 | x3 |

$P = 100(3)^h$

$P = 100(1+2)^h$

ex3.9 7% interest rate

| y | 0 | 1 | 2 |
|---|---|---|---|
| P | $100 | $107 | $114.49 |

$$P = 100(1+.07)^{y}$$

$$= 100(1.07)^{56}$$

$$\approx 2945.70$$

$24 1672 8%

5,000,000,000,000

5000

5,000,000

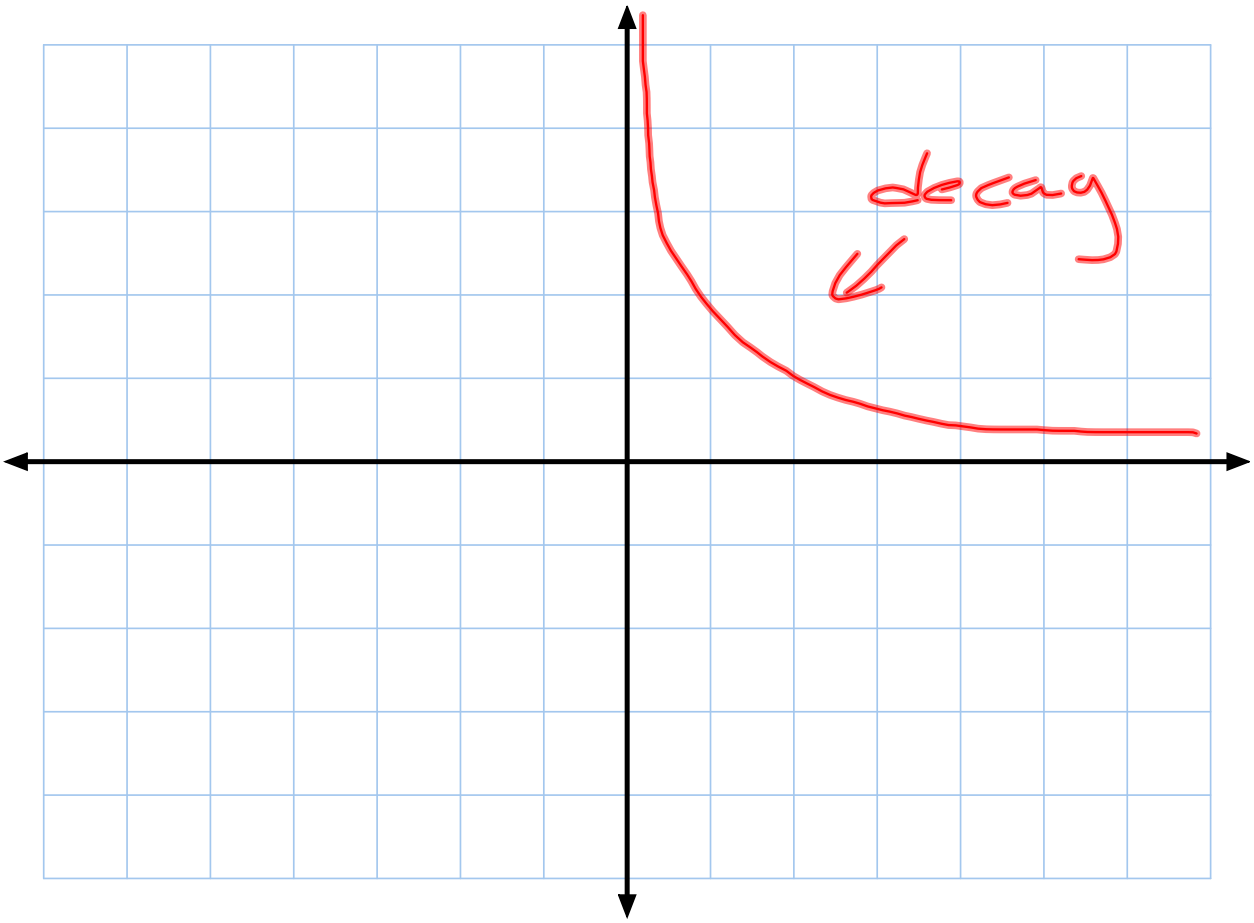
5,000,000,000

$P = a(1+r)^x$

$P = 24(1+.08)^x$

$x = 2013 - 1672$

$= 341$


decay

$P = a(1+r)^x$

$r = -15\%$ $a = 20{,}000$

$P = 20000(1+-.15)^x$

$= 20000(.85)^x$

$\rightarrow 20000(.85)^5 = \$8,874.11$

half-life

$Pu^{239}$ 24000 y

$P = a(1+r)^x$ $x/24000$

$= 100(1+-.5)^{}$

| x | 0 | 24000 (1) | 48000 (2) |
|---|---|---|---|
| P | 100 | 50 | 25 |

$= 100(.5)^{48000/24000} = 25$

Logarithmic Scale

$2^x = 16$ Log

$\log 2^x = \log 16$

$x = \frac{\log 16}{\log 2}$

$10^1 = 10$

$10^2 = 100$

$10^3 = 1000$

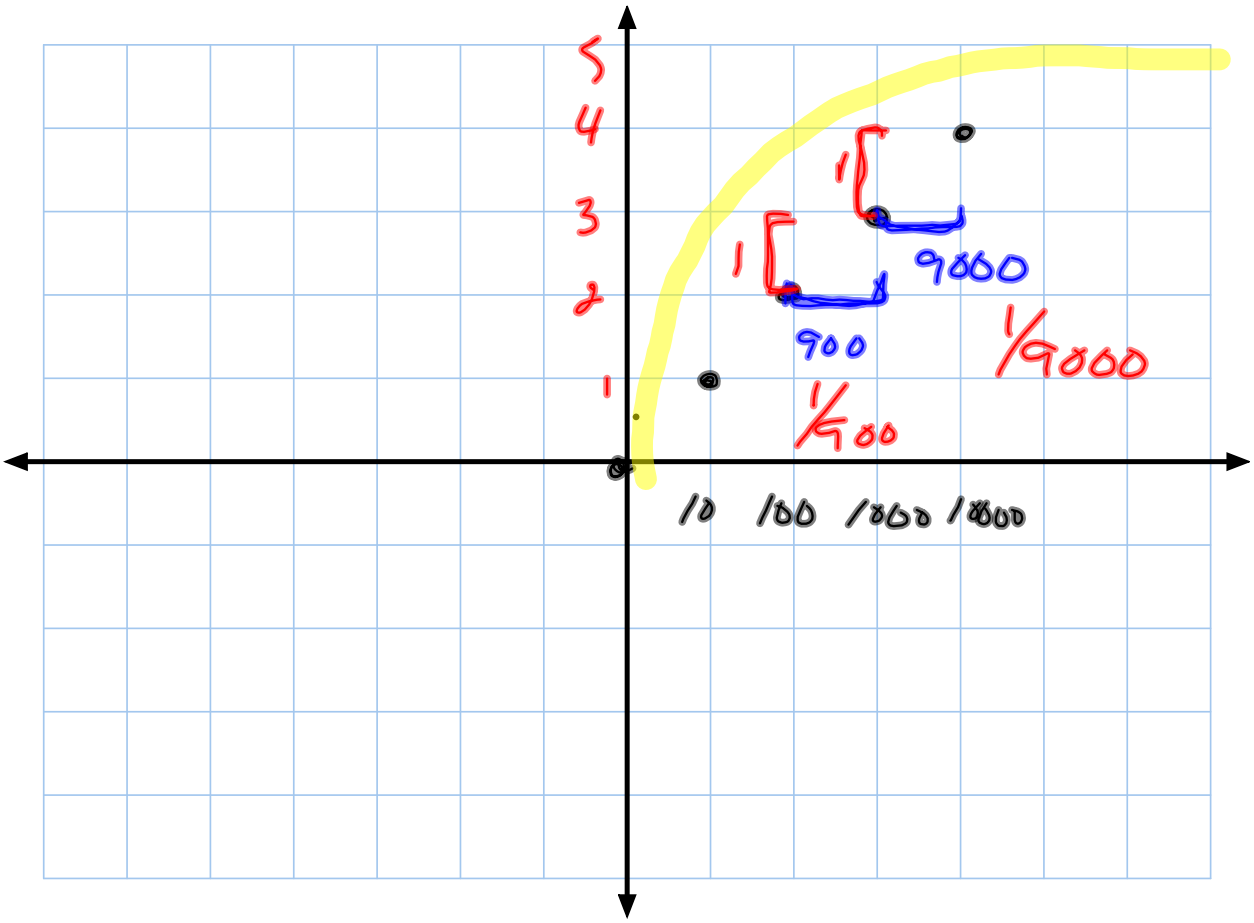
$10^6 = 1000000$

$10^7 = 10000000$

---

$1000000000 = 10^x$

$= 10^9$


5
4
3
2
1
1
9000
1/9000
1
900
1/900
10 100 1000 10000