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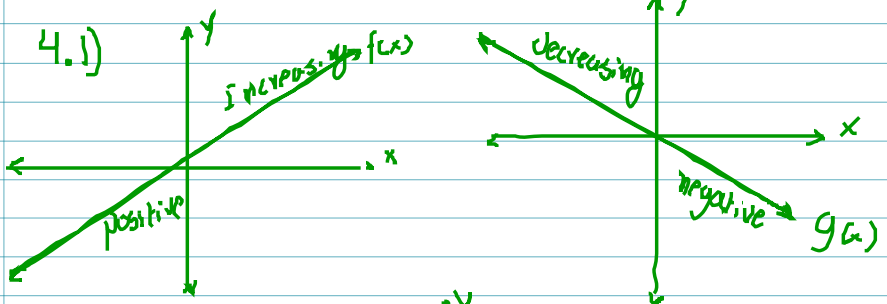
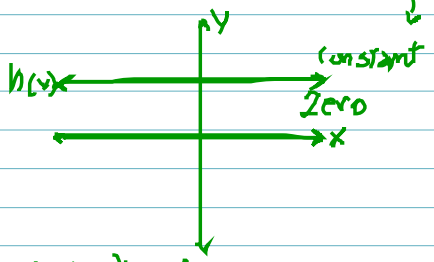
4.1)





As a class: MML Study Plan #26

$S(p) = -300 + 50p$
$D(p) = 960 - 55p$

a) Equilibrium

$D(p) = S(p)$

$960 - 55p = -300 + 50p$

$\frac{1260}{105} = \frac{105p}{105}$ Eq. price is $12.00

$12 = p$

$S(p) = -300 + 50p$
$S(12) = -300 + 600$
$S(12) = 300$ T-shirts
$D(12) = 960 - 660$
$D(12) = 300$ T-shirts

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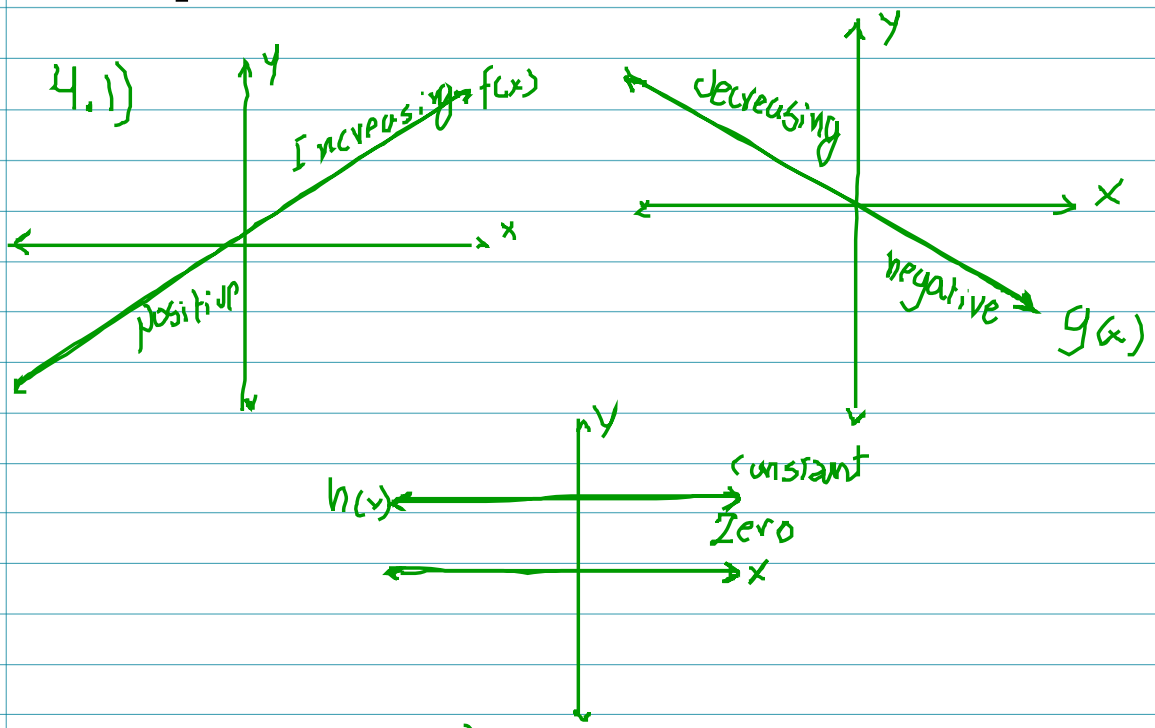

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(b) what "p" gives

1) demand < supply?

1) D(p) < S(p)

$1600 - 55p < -300 + 50p$

$+300 + 55p \quad +300 + 55p$

$1200 < 105p$

$12 < p$

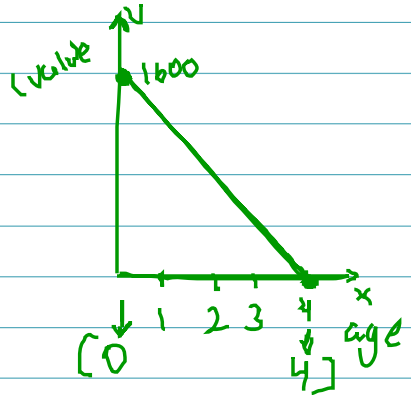
$p > 12$

If price is more than $12.00, then demand < supply

(c) = Lower the price until Eq. Price

As a class: MML Study Plan Problem 29

Part a)



age x	"V" y
0	1600
4	0

Slope: ?

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0 - 1600}{4 - 0} = -400$

Try to pick the (y-int) if available

$y = mx + b$

$y = -400x + 1600$

$V = -400x + 1600$

$V(x) = -400x + 1600$

Domain $[0, 4]$

As a class: MML Study Plan Problem

$C(x) = \underbrace{m}_{\text{variable}} x + \underbrace{b}_{\text{fixed cost}}$

$C(x) = 100x + 2000$

Precast Sections

4.3

"Darren Lacoste frontdoor"

Click "Course Materials"

click "Precast for sections 4.3 and 8.6"

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4.4) Building Quadratic Models from Verbal Descriptions

3 types of Problems

Type 1: Economic Models

Type 2: Geometric Models

Type 3: physics Models

10/18 type 1: Economic Models

"Demand" Equation

-> $R = x \cdot p$

As a class: MML SP Problem 4

$x = -8p + 176$, with $0 \leq p \leq 30$

(a) Express R as a function of (x)

R - Variable 1
x - Variable 2

R and x -> Substitute any other variables

$R = x \cdot p$

Quantity

Revenue

price

$x = -8p + 176$

$\frac{8p}{8} = \frac{176 - x}{8}$ or $8p = -x + 1$

$p = 22 - \frac{1}{8}x$ or $p = -\frac{1}{8}x + 22$

A) $R(x) = x \cdot (-\frac{1}{8}x + 22)$

$x_{min} = 0$

$x_{max} = \boxed{1176}$

Set p = free

$p = 0$

$x_{max} = -8p + 176$

$x_{max} = -8(0) + 176$

$x_{max} = 176$

Domain = [0, 176]

D) Graph

$y = x(-\frac{1}{8}x + 22)$

Max (88, 968)

C) R of 144 unit?

$R(x) = x(-\frac{1}{8}x + 22)$

$R(144) = 144(-18 + 22)$

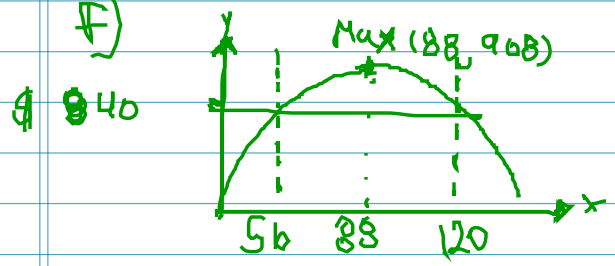
$\boxed{R(144) = \$576.00}$

E) $968 = 88p$

$p = \frac{968}{88}$

$p = \$11.00$

F)



Well finish up