

Lecture 11/15/23 : Combining Functions

Tips for word problems

- 1) Identify units of input and output of function given or function you have to make
 - 2) If You are told to write a function ALWAYS write down the general form of the type of function you are asked to make.
 - 3) Plug in ALL given information, and ~~that~~ THINK about what you are being instructed to do.
 - 4) Make sure to check if your final answer makes sense.
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$$\begin{aligned}\#2 \quad R(h) &= 250h \\ P(h) &= R(h) - C(h) \\ &= 50h\end{aligned}$$

$$\begin{aligned}\#3 \quad a) \quad P(x) &= 7+x \\ K(x) &= 600 - 50x\end{aligned}$$

b) $P(x)K(x)$ is the amount of ^{Per day} revenue after increasing by x dollars.

$$\begin{aligned}c) \quad P(x)K(x) &= (7+x)(600-50x) \\ &= 50(7+x)(12-x)\end{aligned}$$

Can find $x=9.5$ maximum using vertex form

$\times 100$

#4

$$P_S(t) = \frac{S(t)}{S(t) + H(t)} \times 100$$

$$P_H(t) = \frac{H(t)}{S(t) + H(t)} \times 100$$

$$P_S(t) + P_H(t) = 100$$

