MATH 1743: Quiz #1

Problem 1: Write the four parts of a complete model:

1. 
2. 
3. 
4. 

Problem 2: Write the following formulas:

1. Total Cost (in terms of fixed/variable costs):
2. Average Cost:
3. Profit (in terms of revenue/total cost):

Problem 3: $E(t)$ is the value of cotton exports (in millions of dollars) in year $t$. Write sentences interpreting the following mathematical statements:


b. $E = 1999$ when $t = 2$

Problem 4: It cost a company $19.50 to produce 150 glass bottles.

a. What was the average cost of production of a glass bottle?

b. Assuming $C(x)$ is the total cost for producing $x$ units, write an expression for average cost per unit.

Problem 5: Consider the function $S(t) = \frac{120}{1 + 3e^{-2t}}$:

a. Find the output corresponding to $t = 2$.

b. Find the input corresponding to $t = 30$. 