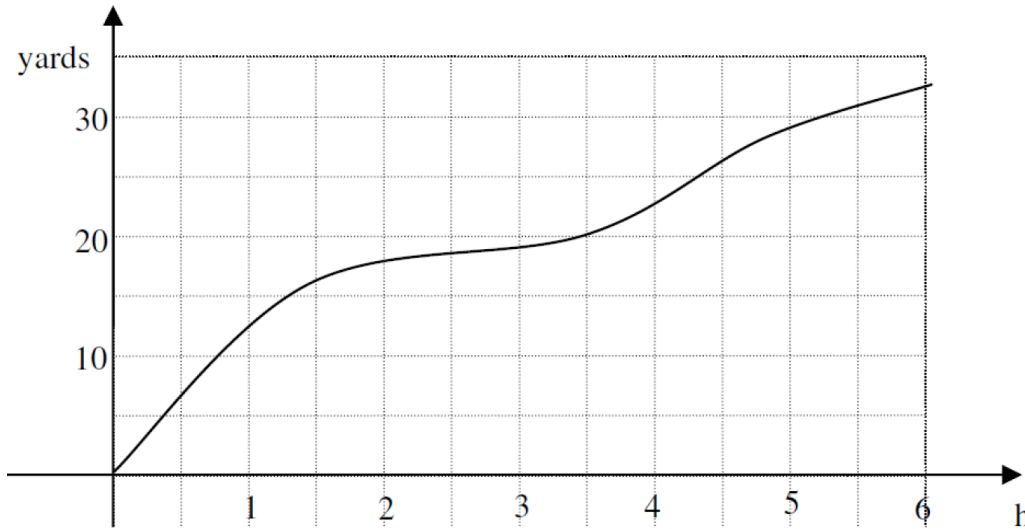


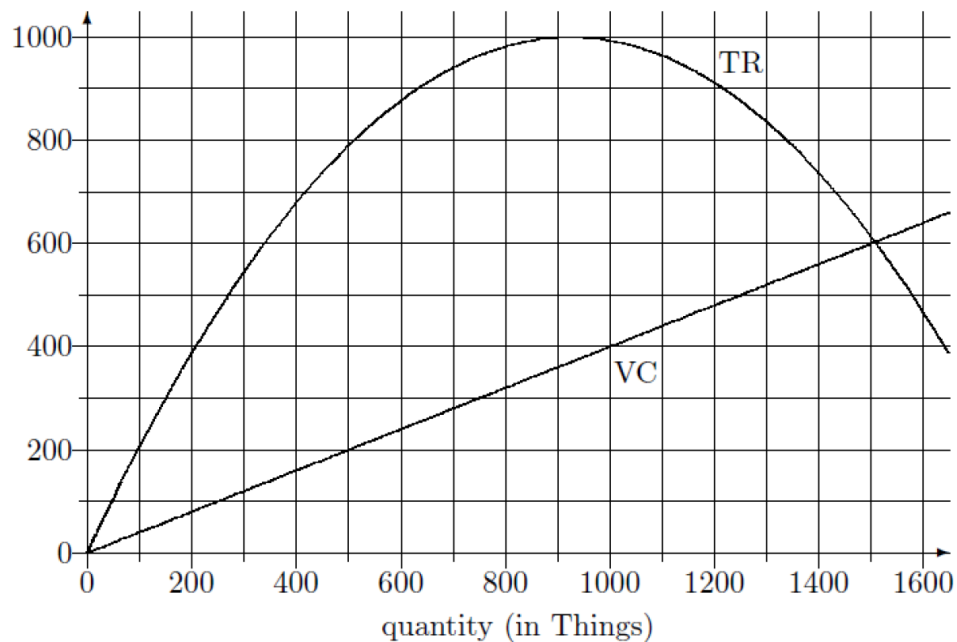
Old Exam Questions:

The graph below represents the **distance** (in yards), $D(t)$, traveled by the Mars Rover vehicle up to time (in hours).

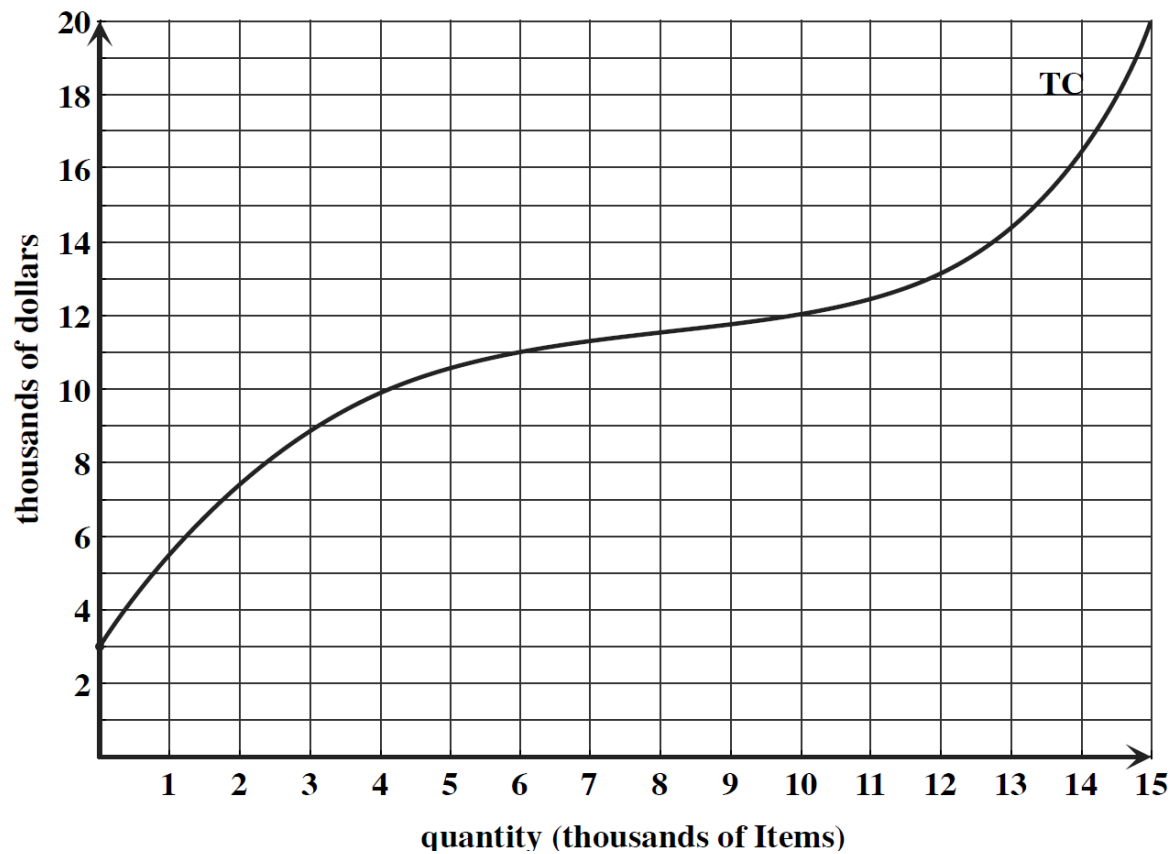


- (a) How long did it take the Rover to travel the first 25 yards?
- (b) What was the ATS of the Rover at two hours?
- (c) Find a time t such that

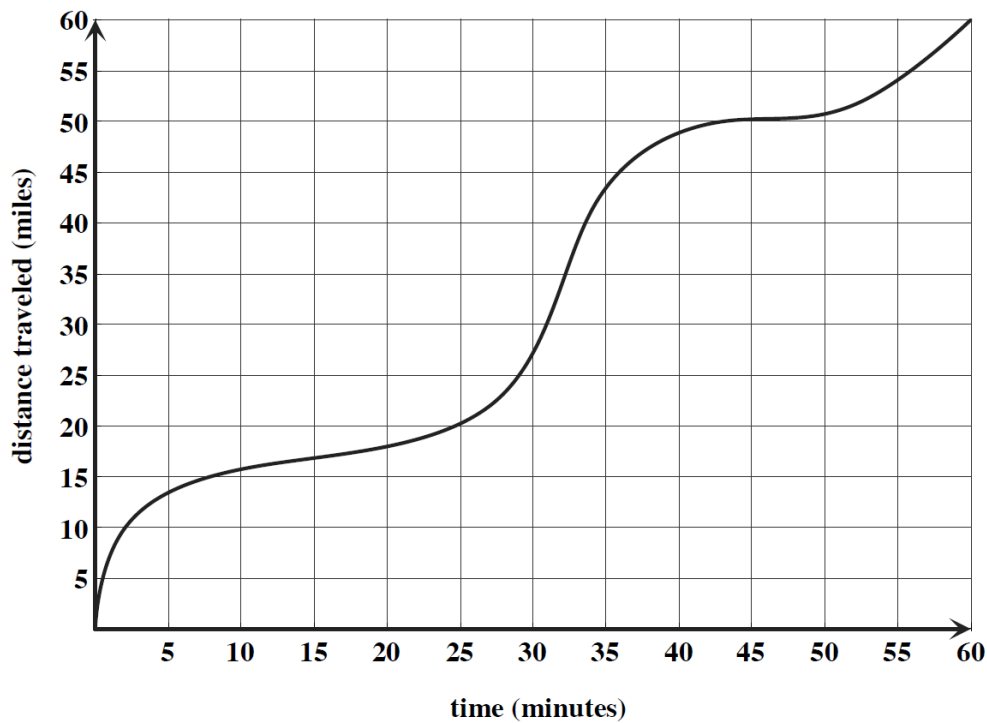
$$\frac{D(t) - D(2)}{t - 2} = 2.5$$



- (a) Compute the MR at $q = 300$ Things.
- (b) Find the longest interval over which the AR is between 0.50 and 0.80 dollars per Thing.
- (c) Suppose $FC = \$300$. What quantity will maximize profit and what is the maximum profit?

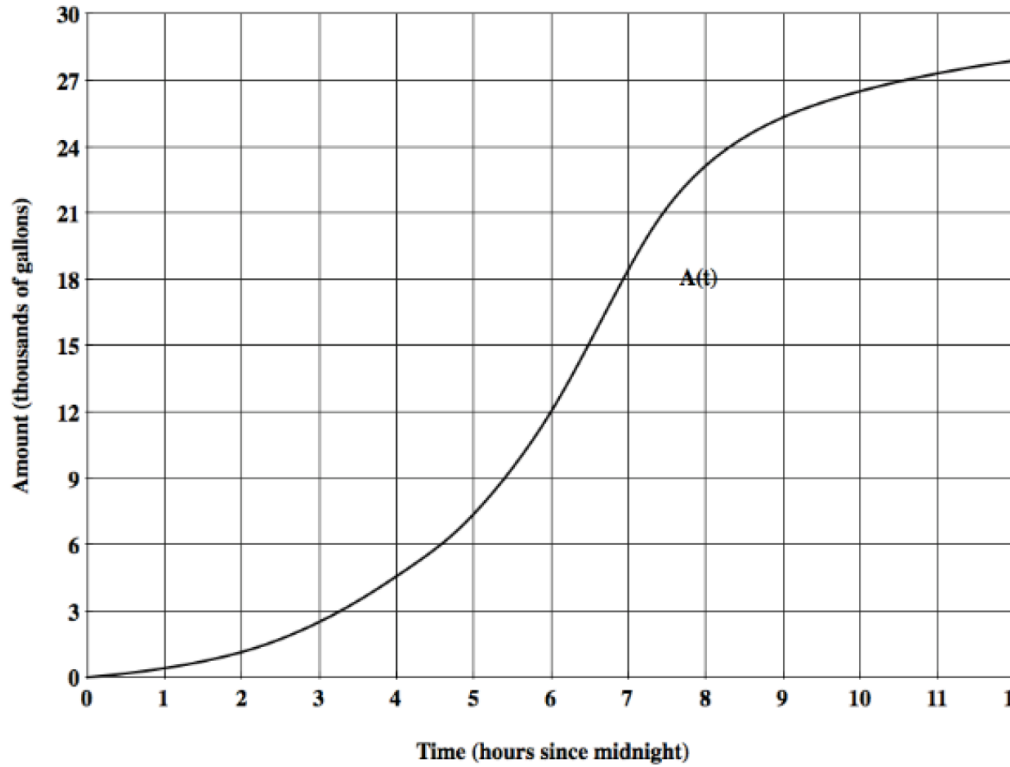


- (a) Compute BEP.
- (b) Compute MC at $q = 5$
- (c) Compute change in TC from 7 to 15
- (d) Compute $AVC(6)$
- (e) If market price is \$1.25, what is the value of maximum profit?

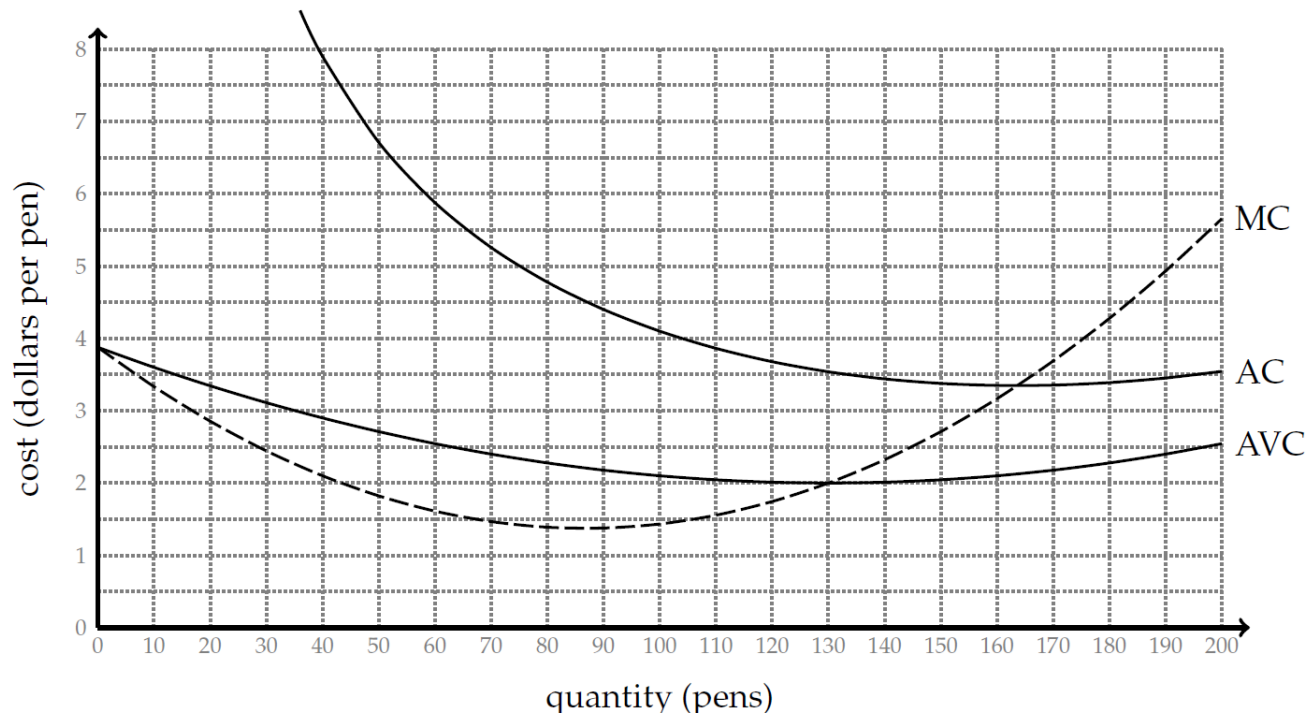


- (a) Find the time at which ATS is 2 mile per minute.
- (b) The car's average speed from $t = 15$ to $t = b$ is 0.5 miles per minute. What is b ?

The graph below gives the total amount of water $A(t)$ that flows into a reservoir.



- (a) Compute the largest value of $\frac{A(t)}{t}$
- (b) Find the average rate of flow of water into the reservoir from 8am to 11am.



- (a) Compute the total cost of producing 90 pens.
- (b) Suppose market price is \$2.50 per pen. Should you shut down production?
- (c) Suppose market price is \$4.50 per pen. What is the maximum possible profit?