

MATH 111
Exam I - Version 1
October 20, 2005

Name _____

Student ID # _____

Section _____

HONOR STATEMENT

"I affirm that my work upholds the highest standards of honesty and academic integrity at the University of Washington, and that I have neither given nor received any unauthorized assistance on this exam."

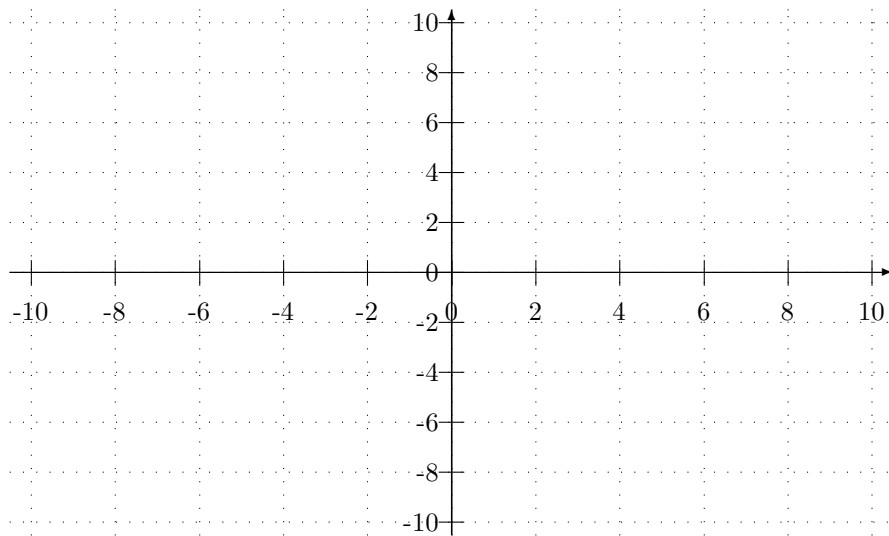
SIGNATURE: _____

1	7	
2	14	
3	16	
4	13	
Total	50	

- Please check that your exam contains 4 problems on 4 pages.
- Please turn your cell phone OFF and put it away for the duration of the exam.
- Unless otherwise indicated, you must show your work. The correct answer with no supporting work may result in no credit.
- Put your name on your sheet of notes and turn it in with the exam.

GOOD LUCK!

1. (7 points)

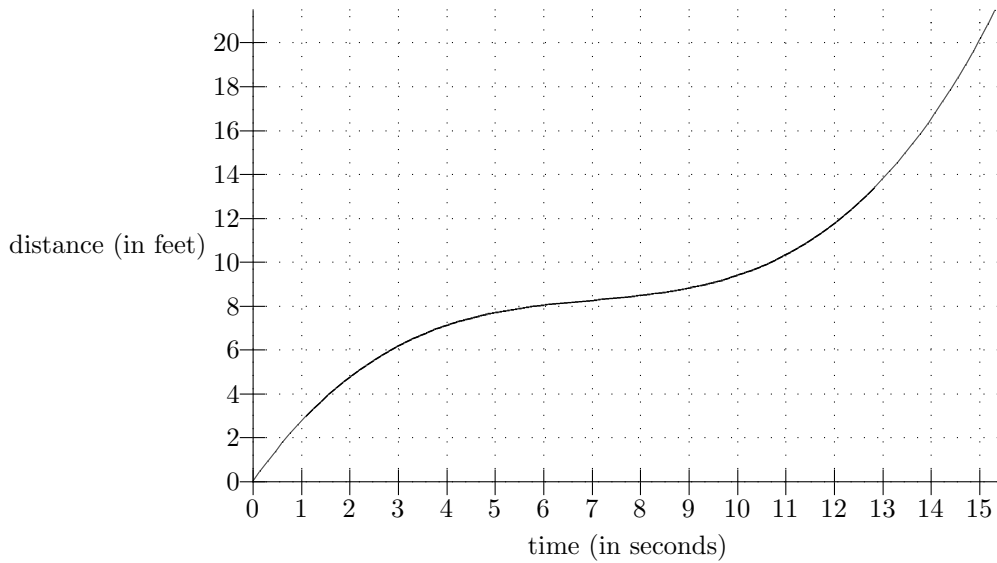


(a) On the axes above, sketch the line that goes through the point $(2, 4)$ and has slope $\frac{1}{3}$.

(b) Is the point $(50, 20)$ on this line? Justify your answer.

ANSWER: (circle one) yes no

2. (14 points) The following is the graph of distance versus time for a moving object.



- (a) Translate the following into English: $D(4) = 7$.
- (b) Translate the following into functional notation and find the value of h that makes the statement true: The object travels 12 feet during the h -second interval starting at $t = 3$.

Translation: _____ $h =$ _____

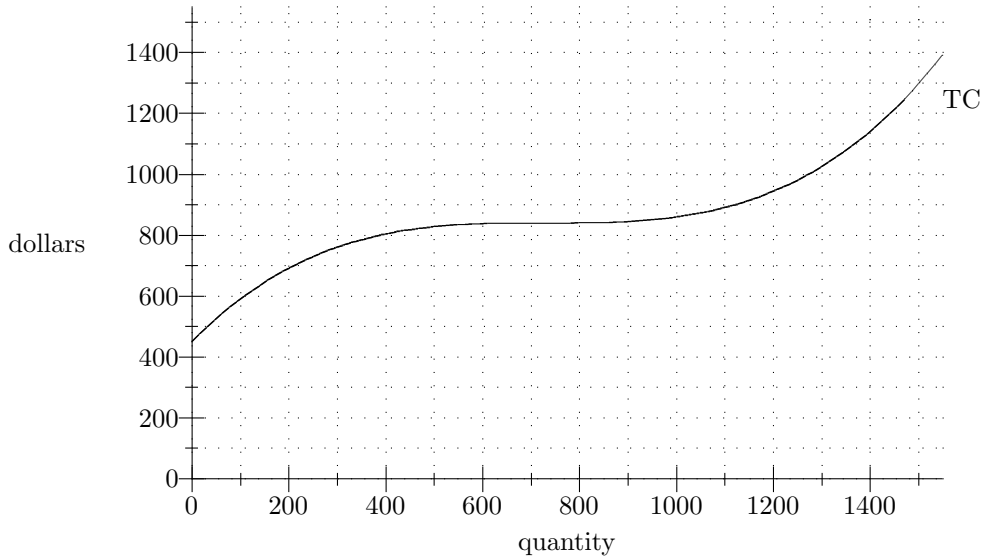
- (c) Compute the object's average speed from $t = 6$ to $t = 10$ seconds.

ANSWER: _____ feet per second

- (d) Name a time at which the object's average trip speed is exactly 1.5 feet per second.

ANSWER: $t =$ _____ seconds

3. (16 points) The following graph shows total cost (TC) for selling Things.



(a) Compute average cost (AC) at $q = 300$ Things.

ANSWER: $AC =$ _____ dollars

(b) Compute variable cost (VC) at $q = 400$ Things.

ANSWER: $VC =$ _____ dollars

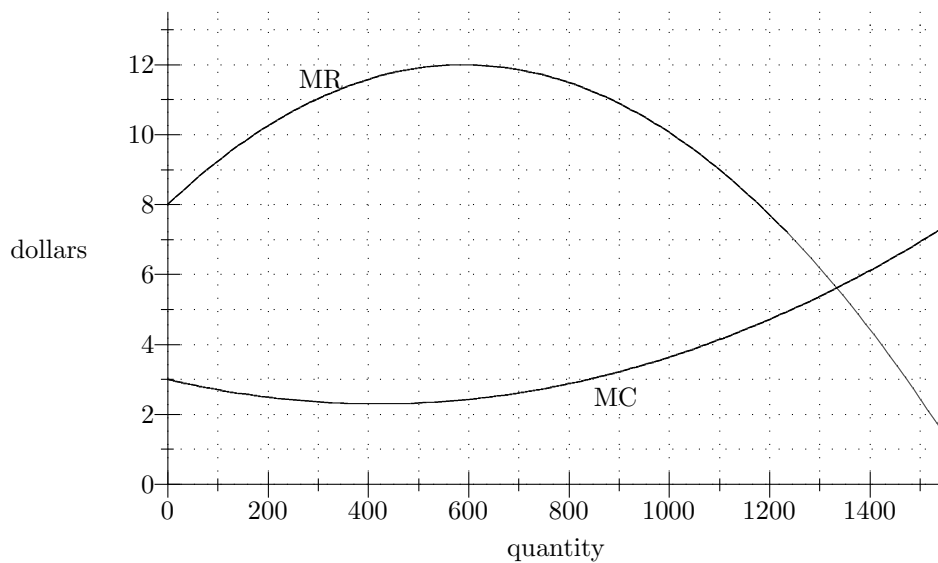
(c) Find the breakeven price.

ANSWER: _____ dollars

(d) If the market price is \$1.10 per Thing, what quantity will maximize profit?

ANSWER: $q =$ _____ Things

4. (13 points) The following graph shows the marginal revenue (MR) and marginal cost (MC) for selling Objects.



- (a) What quantity should you sell in order to maximize profit?

ANSWER: $q =$ _____ Objects

- (b) What is the smallest value of MC ?

ANSWER: \$ _____

- (c) What is the value of $TC(801) - TC(800)$, the change in total cost as quantity changes from 800 to 801 Objects?

ANSWER: \$ _____

- (d) If you sell 400 Objects, your total revenue is \$7500. What is your total revenue if you sell 401 Objects?

ANSWER: \$ _____