

**Math 70**  
**Exam 2**  
**November 20th, 2009**

Name: \_\_\_\_\_

1. Your exam contains 6 questions and 5 pages; Please make sure you have a complete exam.
2. The entire exam is worth 100 points. Point values vary and these are indicated on each problem. You have 50 minutes for this exam.
3. Make sure to **ALWAYS SHOW YOUR WORK**. If in doubt, ask for clarification.
4. Put a box around your final answer where applicable.
5. Simplify answers as much as possible.
6. If you need extra space, use the back of the exam and clearly indicate this.

Problem	Total Points	Score
1	16	
2	39	
3	8	
4	10	
5	12	
6	15	
Total	100	

1. (16 pts.) Simplify the following:

(a) (5 pts.)  $-6a + 3b - 2a - b$

(b) (8 pts.)  $11[2x^2 + 3x(x - 3)]$

(c) (3 pts.)  $m^3 \cdot m^5$

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2. (39 pts.) Solve the following equations. (Remember that you can check your answers.)

(a) (8 pts.)  $-4 + x = -5 + 10$

(b) (7 pts.)  $\frac{1}{4}y = 5$

(c) (8 pts.)  $2x + 1 = 10x - 3$

#2 Continued on the next page →

#2 Continued:

(d) (8 pts.)  $6(x + 5) + x = 9$

(e) (8 pts.)  $\frac{x}{3} = 5 + \frac{x}{4}$

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3. (8 pts.) Solve  $-8x + 4y = 20$  for the variable  $y$ .

4. (10 pts.) You have a choice between two dining tables: One table is square with sides that are 5 feet long. The other table is rectangular with a length of 4 feet and 6 inches and a width of 6 feet.

Which table has more area and what is the difference in area?

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5. (12 pts.) Suppose you drive to Portland, which is 180 miles away. At the beginning of the trip, you average a speed of 20 mph (due to traffic) and afterwards you cruise at 75 mph.

If you spent an **hour and a half in traffic**, **how much time** was spent driving at 75 mph?  
(State your answer in a sentence.)

6. (15 pts.) Three friends (Ann, Betty, and Charlie) decide to buy a \$4000 used car by splitting the cost. Since Ann and Charlie will use the car more, they have decided that Ann will pay four times the amount that Betty will pay. Charlie will pay \$400 more than Betty.

How much will each person pay?

(Use **equations** to solve this problem and state your answer in a complete sentence.)