Math 70
Exam 2
November 19, 2010

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**; you will not receive partial credit unless all work is shown. If in doubt, ask for clarification.
4. Simplify your answers as much as possible.
5. Put a $\boxed{\text{box around your final answer}}$ where applicable.
6. If you need extra space, use the space in the back of the exam.
7. **Remember to check** to see if your answers make sense and check your negatives!

Problem	Total Points	Score
1	8	
2	22	
3	36	
4	8	
5	12	
6	14	
Total	100	

1. (8 pts.) On a trip in Europe, you see an electronic sign that says it is $25°\text{C}$ outside. Luckily, you remember that the temperature conversion formula is $F = \frac{9}{5}C + 32$, where F is the temperature in degrees Fahrenheit and C is the temperature in degrees Celsius .

   What is the outdoor temperature in degrees Fahrenheit?

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2. (22 pts.) Simplify the following as much as possible.

   (a) (7 pts.) $3x[2x + 4(x - 1)]$

   (b) (7 pts.) $2x(6x + 3) - (x + 7)$

   (c) (3 pts.) $y^7 \cdot y^6$

   (d) (5 pts.) $(3a^3b^6)(10a^5b^2)(-b)$

3. (36 pts.) Solve the following equations.

(a) (6 pts.) $5 + x = -12 + 9$

(b) (5 pts.) $6x = 1.2$

(c) (8 pts.) $y + 3y + 2 = 32$

(d) (8 pts.) $5(x - 2) = 2x + 2$

#3 Continued on the next page →

#3 Continued:

(e) (9 pts.) $\frac{x}{6} + \frac{4}{3} = 1$

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4. (8 pts.) Solve $4x + 3y = 6$ for the variable y.

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5. (12 pts.) A person and a squirrel begin at the same point and start running in opposite directions (because they are very scared of each other). The person runs at a speed of 20 feet/sec and the squirrel runs at a speed of 10 feet/sec.

   When will the person and the squirrel be 75 feet apart? (Include units in your answer.)

6. (14 pts.) For the following word problem, clearly **define a variable**, use an **equation** to solve, and state your **answer in a sentence**.

   A 64 inch piece of ribbon needs to be cut into three pieces so that the following is true: The second piece must be twice as long as the first piece. The third piece must be 12 inches longer than the first piece.

   What must the length of the each piece be?
