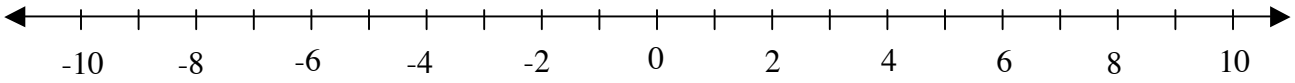
Math 111 Exam 3 Fall 2002

Name: _____

Place your answer in the spaces provided. You must show your work to receive credit.

(8 pts) **1**. Solve and graph the solution. $|8+2y|>2$



(8 pts) **2**. The Boy Scouts earn money by selling Christmas trees. When the price of the trees is set at x dollars each, their total revenue is $R(x) = -4x^2 + 200x - 100$.
What is the total revenue for selling trees at \$20 each?

(6 pts) **3**. Add. $\left(\frac{1}{4}a + b - 3c\right) + \left(\frac{1}{2}a - \frac{1}{6}b + \frac{1}{5}c\right)$

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(12 pts) **4**. Multiply.

(6 pts) **a**) $(5d+3w)^2$

(6 pts) **b**) $(m+7p)(2m-p)$

(6 pts) **5**. Factor out the greatest common negative factor.

$-8y^2-20y+12$

(8 pts) **6**. Factor completely.

$a^3b-10a^2b+24ab$

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(8 pts) **7**. Solve. $40 + z^2 + 13z = 0$

$z =$

(8 pts) **8**. Divide. $\dfrac{x^2+2x-15}{x^2-9} \div \dfrac{(x+5)(x+1)}{3+x}$

(6 pts) **9**. Add. $\dfrac{x+7}{x-5} + \dfrac{3}{x+7}$

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(8 pts) **10**. Solve. $\frac{3}{2y} + \frac{6}{y} = \frac{5}{6}$

$y =$ [ ]

(10 pts) **11**. A computer monitor screen is rectangular with a plastic frame surrounding it that is x inches wide. The dimensions of the screen itself are 10 in. by 20 in. If the area of the screen with the frame is 299 square inches, write an equation that could be used to determine the value of x.
Do not simplify or solve your equation.

equation:

[ ]

(12 pts) **12**. Avalon Banquet Hall charges $800 plus $10 per person for wedding receptions. Innsbrook Country Club charges $500 plus $15 per person. For what numbers of people is Avalon Banquet Hall less expensive? **Name a variable, set up an inequality, and solve.**

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