Math 102 Quiz 6 name_____
March 2, 2012

Instructions: Show your work, and box your final answer.

If you encounter an imaginary number, say so (don't try to finish the problem).

1. Multiply, and collect any like terms:

(a) $(2m-3)(-5m+9)$

(b) $(a-5)(a^2-ab+3)$

2. Solve the following equations. Check your solutions by plugging them into the original equations.

(a) $q^2-9q=22$

(b) $2z^2-4z+9=z^2+5$

3. Find the roots of:

(a) $y=x(x^2-4)$

(b) $y=(x-1)(x+2)$

4. Factor, if possible, the following expressions.

(a) $z^3 - 6z^2 + 5z$

(b) $9ab^2 + 15a^3b$

(c) $m^2 + 4m + 9$

5. Divide: $(x^3 - 7x^2 + 14x + 20) \div (x - 5)$.

Extra credit. The value of a stock after t days has the formula

$$V(t) = 2t^3 - 34t^2 - 60t + 100 \qquad (V = \text{value})$$

When is the stock worth \$100? (there are three solutions)