Math 102 Quiz 6 Make-up

due Monday March 12, 2012 before the final.

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. Factor as much as possible:

(a)
$$4(s-3) - a(s-3)$$

(b)
$$q^2 - 3q + 75$$

2. Find the roots of:

(a)
$$y = x^2 + 25$$

(b)
$$y = x^3 - x^2 - 20x$$

3. Multiply and collect like terms:

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

(b)
$$(6r - 2s)^2$$

4. Divide: $(k^3 + k^2 - 15k + 20) \div (k - 4)$.

5. Solve the following equations. Check your solutions.

(a)
$$-q^2 + 7q = 3q - 5$$

(b)
$$z^2 - 36 = -9z$$

(c)
$$(w-2)(w+2)(w+1) = 0$$