MA 341 – Review Assignment 3

Question 1

Write this expression in the standard form $(a + bi)$. Verify your results using a graphing utility.

$$(-8 + 3i) - (9 - 5i)$$

Question 2

Write this expression in the standard form $(a + bi)$. Verify your results using a graphing utility.

$$6i(2 - 3i)$$

Question 3

Write this expression in the standard form $(a + bi)$. Verify your results using a graphing utility.

$$\frac{10}{3 - 4i}$$

Question 4

Write this expression in the standard form $(a + bi)$. Verify your results using a graphing utility.

$$\frac{2 + i}{i}$$

Question 5

Write this expression in the standard form $(a + bi)$. Verify your results using a graphing utility.

$$\left(\frac{1}{2} + \frac{\sqrt{3}}{2} i \right)^2$$

Question 6

Write this expression in the standard form $(a+bi)$. Verify your results using a graphing utility.

$$i^{61}$$

Question 7

Solve this equation in the complex number system. Check your results using a graphing utility.

$$x^2 - 9 = 0$$

Question 8

Solve this equation in the complex number system. Check your results using a graphing utility.

$$x^2 - 6x + 10 = 0$$

Question 9

Solve this equation in the complex number system. Check your results using a graphing utility.

$$5x^2 - 2x + 1 = 0$$

Question 10

The following is a solution of a quadratic equation with real coefficients.

$$8 + 9i$$

Find the other solution.