**Extra Credit 25 – 28**

**Extra #25**

**Simplify**

**1.** $\frac{(1+3i)^{2}}{(4-i)^{2}}$ **2.**$ \frac{2-i\sqrt{3}}{1+i\sqrt{3}}$ **3.** $\frac{2+i}{(1-i)^{2}}$

**Extra #26**

**Solve**

**1.**  $\sqrt{x+10}+ \sqrt{x-6}=8$ **2.** $\sqrt{x+2}- 7= \sqrt{x+9}$

**3.** $\sqrt{4x^{2}- 3x+2}- 2x-5=0$

**Extra #27**

**Solve on your calculator. Round answers to 3 decimals.**

**1.** $x^{5}-3x^{4}+ x^{3}+ 5x^{2}=6x+1$

**2.** $x^{5}+2x^{4}- 10x^{3}-20x^{2}=-9x-15$

**3.** | x | = $x^{2}+ x-3$ **4.** $\sqrt{x-10}=4$

**5.** | x – 8 | = $x^{2}- 5x$ **6.** 2x – $\sqrt{15-4x}=0$

**Extra #28 (Calculator)**

**Find the vertex of the functions:**

**1**. $g\left(x\right)= x^{2}+ 6x-27$ **2.** g(x) = $x^{2}+ 5x-6$ **3.** $f\left(x\right)= x^{2}+ \frac{25}{3}x+\frac{1}{15}$

**Solve by graphing. Round answers to 2 decimals**

**4.** 2$x^{2}+ 7x=4$ **5.** 2$x^{2}- 6x-4=0$ **6.** $a^{2}+ 30a+225=0$