Notes on Complex Numbers

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| **Things we know:** |
| **Simplify Radicals**$$\sqrt{98}$$ | **Apply the Quadratic Formula**When $ax^{2}+bx+c=0, then x= \frac{-b \pm \sqrt{(b)^{2}-4(a)(c)}}{2(a)}$Example: $2x^{2}+9x+4=0$ |
| **Imaginary Numbers**$$i= \sqrt{-1}=i$$$$i^{2}=( \sqrt{-1})^{2}=-1$$$$i^{3}=( \sqrt{-1})^{3}=-i$$$$i^{4}=( \sqrt{-1})^{4}=1$$ |
| $$\sqrt{-98}=$$$$\left(5-7i\right)\left(5+7i\right)$$$$\frac{3-i\sqrt{2}}{i\sqrt{2}}$$ | $$0=3x^{2}+12x+14$$ |