**Unit 1 Review Sheet- Polynomials & Complex Numbers**

In this unit, the **VERB** you will saw most was **SIMPLIFY**. Think about how we simplified polynomials, radicals, & complex numbers and solved radical equations. As you complete each problem, check off each box to ensure you have simplified or solved correctly and completely.

* + Did you expand out all polynomial products and combine like terms?
	+ Did you write the expression as a binomial, trinomial, etc.?
	+ Did you pay attention to what root you are taking (square, cubic, etc.) and rewrite the radicand accordingly?
	+ Did you apply your knowledge of polynomials to the powers of *i* and reduce?
	+ Are all powers of *i* reduced? (You cannot leave an *i* raised to any power other than 1)
	+ Are you solving a radical equation the same way you would any other equation?
	+ Did you isolate the radical before squaring both sides in a radical equation?
1. Simplify the expression .
2. Given each expression, write each in simplest form:
	1. $\sqrt[3]{16x^{17}y^{12}}$ b. $5x\sqrt{-75x^{4}y^{5}}$
3. Write  in simplest  form.
4. The expression  is equivalent to

|  |  |  |  |
| --- | --- | --- | --- |
| 1) |  | 3) |  |
| 2) |  | 4) |  |

1. Write a trinomial that is equivalent to $(\frac{4}{3}x+ \frac{3}{5})(x-1)$.
2. Determine the solution set for each equation below
	1. $\sqrt{5+4x}=10$ b. $3\sqrt{2x+6}-7=20$
3. Determine, in simplest $a + bi$ form, an expression for each:
	1. $(3 – 8i)(7 + i)$ b. $\left(2-8xi\right)\left(3-2i\right)-(2+8xi)(3-2i)$