**Algebra 2 HW 5.5 Name**

**Factor Theorem:** Remember that if f(a) = 0, then (x – a) is a factor.

**In #1-2, write a polynomial with the given zeros.**

1. 5, -8 2. -2, -6, 3

3. 3, -3, -4, 2

* Irrational roots (zeros) and imaginary roots come in conjugate pairs.
* Conjugates are the same expression, just with a different sign (+ or -) in between.
* When using the quadratic formula, you get answers like (3 ±$\sqrt{2}$) or (5 ± 3i).
* When solving with square roots, you get answers like ±$\sqrt{7}$ or ±5i.
* These are considered conjugate pairs.

**In #3-4, suppose that a polynomial has the roots (zeros) listed below. Find two additional roots for the polynomial.**

3. 7 + $\sqrt{5}$ and -6i 4. 9 + 2i and -$\sqrt{13}$

**In #5-7, find a polynomial equation that has the given roots.**

5. 4 and -5i 6. -3 and $\sqrt{7}$

7. 5 – 3i