

**Complex Numbers** – in book: Section 7.5 p. 465

**Simplify.**

1.  $i^{65} + i^{29}$

2.  $i^{243}(1 - 3i)$

3.  $(3 + 2i) + (4 + 5i)$

4.  $(-6 - 2i) - (-8 - 3i)$

5.  $(2 - 3i)(5 + i)$

6.  $(\sqrt{2} + 2i)(\sqrt{2} - 2i)$

7.  $\frac{4 - 7i}{-3i}$

8.  $\frac{4 + 3i}{1 - 2i}$

9.  $\frac{2}{6 + 5i}$

10.  $(6 - i)^2$

**Factor and solve the following polynomials.**

11.  $0 = 2x^2 + 162$

12.  $0 = x^2 - 4x + 13$

13.  $0 = x^2 + 2x + 37$

14.  $0 = x^2 + 84$