Name

 Class

 Date

Complex Numbers Part 1

**Simplify each number by using the imaginary number *i*.**

**1. ** **2. ** **3.** 

**4.  5.  6. **

**Simplify each expression.**

**7.** (−2 + 3*i*) + (5 − 2*i*)

**9.** (4 − 2*i*) − (−1 + 3*i*)

**11.** (4 − 3*i*)(−5 + 4*i*)

**13. **

**15.** 3*i*(2 + 2*i*)

**17. **

**19.** 2(3 − 7*i*) − *i*(−4 + 5*i*)

**8..** (−6 + 7*i*) + (6 − 7*i*)

**10.** (−5 + 3*i*) − (−8 + 2*i*)

**12.** (2 − *i*)(−3 + 6*i*)

**14.** (−2*i*)(5*i*)(−*i*)

**16. **

**18. **

**20. **

**Class Set: Do not write on**

**Complex Numbers Part 2**

**Write each quotient as a complex number.**

 **21. **

 **23. **

 **25.** $\frac{8i}{-1+3i}$

 **22.**

**24. **

**26.** 

**Find the factors of each expression. Check your answer.**

**27.** *x*2 + 36 28**.** 2*x*2 + 8

**29.** 16*x*2 + 25 30**.** −4*x*2 − 49

**Find all solutions to each quadratic equation.**

**31.** *x*2 + 2*x +*  5 = 0 32**.** −*x*2 + 2*x −* 10 = 0

**33.** 2*x*2 − 3*x +* 5 = 0

**34.** −4*x*2 + 6*x −* 3 = 0