Pre-Calculus A Name : _____
Complex Operations and Solutions Practice Date : _____ Period : ____

Write in complex form:

1) $\sqrt{-25}$ 2) $\sqrt{-64}$ 3) $\sqrt{-14}$ 4) $\sqrt{-32}$

Perform the addition, subtraction, or multiplication and write the result in standard form.

5) $(5+i)+(6-2i)=$

6) $(13-\sqrt{-4})+(-5+\sqrt{-36})=$

7) $(8-i)-(4-i)=$

8) $(3+\sqrt{-4})-(6+\sqrt{-169})=$

9) $5i(3-2i)=$

10) $(6-2i)(2-3i)=$

Write the complex conjugate of the number. Then multiply the two quantities.

11) $6+3i$

12) $7-12i$

13) $-3+\sqrt{2}i$

Write the quotient in standard form.

14) $\frac{6-7i}{1+2i}$

15) $\frac{8+16i}{3-i}$

16) $\frac{6-5i}{2i}$

For questions 17 – 19, find all zeros of the given polynomials.

17) $x^3-4x^2+6x-4=0$

18) $x^3-4x^2+9x-36=0$

19) $x^3+10x^2+33x+34=0$