

**General Algebra II Worksheet #9 Unit 7 page 1** \_\_\_\_\_

**Find the indicated absolute values. (Simplify any square roots.)**

1.  $|2 + 4i| =$

2.  $|12 - 5i| =$

3.  $|4i| =$

**Perform the indicated operations. If the answer is a complex number, then write it using a + bi form.**

4.  $(5 + 3i) + (4 - 7i) =$  \_\_\_\_\_

5.  $(3 - 5i) + (5 - 3i) =$  \_\_\_\_\_

6.  $(6 - 3i) + (-8 + i) =$  \_\_\_\_\_

7.  $(1 + 7i) - (3 + 2i) =$  \_\_\_\_\_

8.  $(6 - 5i) - (7 + 3i) =$  \_\_\_\_\_

9.  $(5 + 3i) - (2 - i) =$  \_\_\_\_\_

10.  $(-3)(2i) =$  \_\_\_\_\_

11.  $(5i)(7i) =$  \_\_\_\_\_

12.  $(-3i)^3 =$  \_\_\_\_\_

13.  $2i(3 + 4i) =$  \_\_\_\_\_

14.  $(5 - 2i)(1 + 5i) =$  \_\_\_\_\_

15.  $(3 - 5i)(2 - 5i) =$  \_\_\_\_\_

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Perform the indicated operations. If the answer is a complex number, then write it using  $a + bi$  form.

16.  $(3 - 2i)^2 =$  \_\_\_\_\_

17.  $(5 + i)^2 =$  \_\_\_\_\_

18.  $(3 + 2i)^3 =$  \_\_\_\_\_

19.  $(2 - 3i)(2 + 3i) =$  \_\_\_\_\_

20.  $\frac{5 - 3i}{2i} =$

21.  $\frac{1 + 2i}{5i} =$

22.  $\frac{2 - i}{3 - 2i} =$

23.  $\frac{11 + 7i}{3 + 5i} =$

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Write the additive inverse of each of the following ( $a + bi$  form).

24.  $2 + 3i$  \_\_\_\_\_

25.  $3 - 5i$  \_\_\_\_\_

Write the complex conjugate of each of the following ( $a + bi$  form).

26.  $1 + i$  \_\_\_\_\_

27.  $4 - 2i$  \_\_\_\_\_

Write the multiplicative inverse of each of the following ( $a + bi$  form).

28.  $1 + 2i$  \_\_\_\_\_

29.  $3 - i$  \_\_\_\_\_

Graph each of the following. Label your graphs.

30.  $2 + 5i$

31.  $-6 - 3i$

32.  $-8 + 4i$

33.  $6 - 7i$

34.  $2i$

