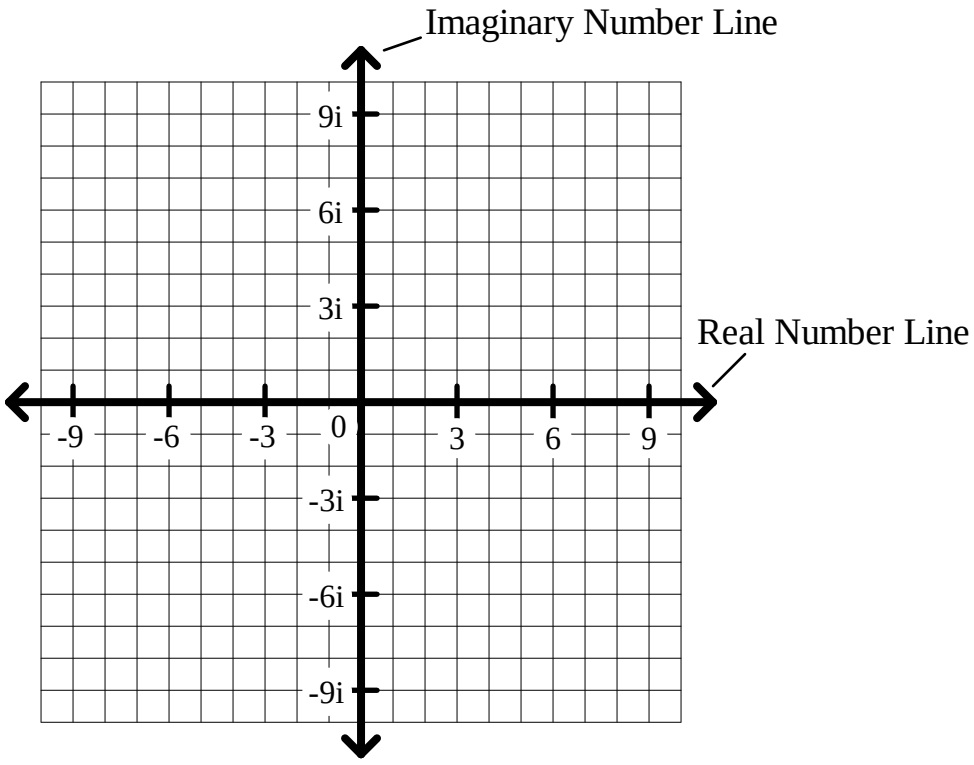
Algebra II Worksheet #5 Unit 5 page 1 _____

Graph each of the following numbers on the complex number plane. Label your graphs properly.

1. **8 + 5i**
2. **-6 + 3i**
3. **-8 – 4i**
4. **3 – 7i**
5. **-8**
6. **6i**



Find the indicated absolute values. Express your answers in simplest form.

7. **|5 + 12i| = _____**
8. **|-3 – 4i| = _____**
9. **|6 – 2i| = _____**
10. **|-2 + i| = _____**
11. **|6i| = _____**
12. **|-2| = _____**

Perform the indicated operations. Express complex answers in a + bi form.

13. **(3 + 7i) + (5 + 2i) = _____**
14. **(7 – 3i) + (-1 + 3i) = _____**
15. **(-3 – 8i) + (4 + i) = _____**
16. **(9 – 7i) + (-3 – 5i) = _____**

Find the additive inverse (opposite) of each of the following.

17. **6 + 8i** _____
18. **3 – 7i** _____
19. **-2 + i** _____
20. **9** _____
21. **-3i** _____
22. **-1 – i** _____

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Perform the indicated operations. Express complex answers in a + bi form.

23. $(2 + 8i) - (5 + 3i) =$ _____

24. $(8 + 3i) - (5 + 6i) =$ _____

25. $(5 - i) - (5 - 7i) =$ _____

26. $(4 - 6i) - (-8 + 5i) =$ _____

27. $5(3 + 2i) =$ _____

28. $-3(4 - 7i) =$ _____

29. $2i(2 + 3i) =$ _____

30. $-5i(6 + 4i) =$ _____

31. $(2 + 3i)(5 + i) =$ _____

32. $(3 - 7i)(1 + 4i) =$ _____

33. $(7 - 3i)(2 - 5i) =$ _____

34. $(1 - 8i)(5 + 3i) =$ _____

35. $(8 + 5i)(8 - 5i) =$ _____

36. $(-2 + i)(-2 - i) =$ _____

37. $(6 - 4i)(2 - 3i) =$ _____

38. $(1 - i)(1 + 3i) =$ _____

39. $(2 + 5i)^2 =$ _____

40. $(4 - 3i)^2 =$ _____

41. $(-5 + i)^2 =$ _____

42. $(-3 - 2i)^2 =$ _____

43. $(2 + i)^3 =$ _____

44. $(1 - 2i)^3 =$ _____