

Algebra II Worksheet #6 Unit 5 page 1 _____

Perform the indicated operations. Answers which are complex numbers must be expressed using $a + bi$ form.

1. $(7 + 5i) + (2 - 8i) =$ _____

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

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

4. $(5 - 2i) - (2 + 3i) =$ _____

5. $(-3i)(5i) =$ _____

6. $(7)(-2i) =$ _____

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

8. $-3(2 - i) =$ _____

9. $-i(3 - 5i) =$ _____

10. $5(8 + 3i) =$ _____

11. $(2 + 7i)(3 - 2i) =$ _____

12. $(-3 + i)(2 + 4i) =$ _____

13. $(3 - 4i)(2 - 7i) =$ _____

14. $(4 + i)(4 - i) =$ _____

15. $(2 + 5i)^2 =$ _____

16. $(7 - 3i)^2 =$ _____

17. $\frac{8 + 3i}{2i} =$

18. $\frac{6 - 5i}{-3i} =$

19. $\frac{3 + 11i}{2 + 3i} =$

20. $\frac{3 + 2i}{2 + i} =$

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Perform the indicated operations. Answers which are complex numbers must be expressed using $a + bi$ form.

21. $\frac{5 - 3i}{4 - 5i} =$

22. $\frac{-3 - 9i}{2 + 5i} =$

23. $\frac{7 - 4i}{1 + 3i} =$

24. $\frac{2 + i}{2 - i} =$

25. $\frac{-2i}{3 + i} =$

26. $\frac{5}{2 - i} =$

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

27. $2 + 3i$ _____

28. $5 - 4i$ _____

29. $1 + 5i$ _____

30. $-3 - 2i$ _____