Name_____ Date_____

Complex Numbers Review

1. $\sqrt{-81}$	2. $-16-\sqrt{-16}$
3. i^8 =	4. $11i^2$ =
5. –i + 6i	6. 7 + i + 4 + 4
7. (5 - 6i) + (5i) + (7 + 6i)	8. (-4 - 7i) - (4 + 5i) - (2 - i)
9. 6i(4 - 12i)	10. 6i ▪ -4i + 8
11. (8 - 6i)(-4 - 4i)	12. $(1 - 7i)^2$
13. $\frac{2}{8i}$	14. $\frac{6+8i}{9i}$
15. $\frac{5i}{-2-6i}$	16. $\frac{-3-7i}{7+10i}$

17. Show or explain why the solution to (a + bi)(a - bi) is a real number and not complex number solution.

18. What is $(3 + 2i)^2$ expressed as a complex number? Use the form *a + bi,* where *a* and *b* are real numbers.

19. Multiply (4 + i)(a + bi). How could we find an answer that is NOT a complex number. Write an equation that expresses the relationship between a and b.

20. Explain why the expression $(a + bi)^2$ is always a complex number for non zero values of a and b.