Algebra II Academic
Sections 5.5 and 5.9 Review

Name:_____
Date:_____ Pd.____

Directions: Express each number in terms of *i*.

1. $8\sqrt{-4}$

2. $-\frac{1}{3}\sqrt{-90}$

3. $6\sqrt{-12}$

4. $\sqrt{-50}$

Directions: Solve each equation.

5. $x^2 + 49 = 0$

6. $5x^2 = -80$

7. $2x^2 + 16 = 0$

8. $x^2 + 18 = -6x$

Directions: Find the x and y values that make each equation true.

9. $9x + (y)i - 5 = -12i + 4$

10. $5(x - 1) + (3y)i = -15i - 20$

Directions: Find each complex conjugate.

11. i

12. $-\frac{\sqrt{32}}{2} - 2i$

13. $-2.5i + 1$

Directions: Find the zeros of each function.

14. $f(x) = x^2 + 2x + 3$

15. $f(x) = x^2 + 4x + 8$

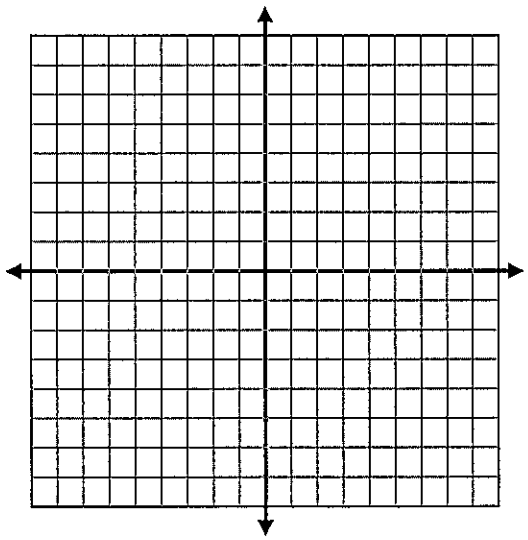
Directions: Graph each complex number.

16. 4

17. $-2.5i$

18. $4 - 3i$

19. $-i$



Directions: Find each absolute value.

20. $|2 + 3i|$

21. $|-18|$

22. $|-0.5i|$

23. $|-1 + i|$

Directions: Perform each indicated operation and write the result in the form $a + bi$.

24. $(-1 - 8i) + (4 + 3i)$

25. $(-30 + i) - (-2 + 20i)$

26. $(1 - 2i)(1 + 2i)$

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

28. $(-4 - 5i)(2 + 10i)$

29. $-i^9$

30. $2i^{15}$

31. $\frac{5-4i}{i}$

32. $\frac{45-3i}{7-8i}$

33. $\frac{-3-12i}{6i}$