Name _____ Date _____

3.2 Practice A

In Exercises 1–3, find the square root of the number.

1. $\sqrt{-25}$ **2.** $\sqrt{-81}$ **3.** $\sqrt{-32}$

In Exercises 4–7, find the values of *x* and *y* that satisfy the equation.

4. $5x + 3i = 15 + yi$ **5.** $-6x + 10i = 12 + 2yi$

6. $x + 2yi = 13 + 8i$ **7.** $3x + 50i = 18 - 5yi$

In Exercises 8–11, add or subtract. Write the answer in standard form.

8. $(3 + 2i) + (5 + 7i)$ **9.** $(4 - 3i) + (9 + 2i)$

10. $(6 + 5i) - (4 + 3i)$ **11.** $(7 - 4i) - (10 - 3i)$

12. Write each expression as a complex number in standard form.

a. $\sqrt{-25} - \sqrt{-9} + \sqrt{-81}$

b. $\sqrt{-27} + \sqrt{-49} - \sqrt{-64}$

In Exercises 13–16, multiply. Write the answer in standard form.

13. $5i(-4 + 2i)$ **14.** $3i(8 - 3i)$

15. $(2 - i)(3 + i)$ **16.** $(4 + 6i)(9 - 2i)$

17. Justify each step in performing the operation.

$14 + (5 - 3i) - 4i$

$\left[(14 + 5) - 3i\right] - 4i$	
$(19 - 3i) - 4i$	
$19 + (-3i - 4i)$	
$19 - 7i$	

In Exercises 18 and 19, find the zeros of the function.

18. $f(x) = 5x^2 + 15$ **19.** $g(x) = 3x^2 + 21$

In Exercises 20 and 21, solve the equation. Check your solution(s).

20. $x^2 + 36 = 0$ **21.** $x^2 + 6 = -14$