

4.6

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. $(7 - 4i) - (10 - 3i)$

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. $(4 + 6i)(9 - 2i)$

In Exercises 18–23, multiply the complex number by its complex conjugate.

18. $2 + i$

19. $7 - i$

20. $3 + 5i$

4.7

Practice A

In Exercises 1–8, solve the equation using any method. Explain your choice of method.

1. $x^2 + 36 = 0$

2. $x^2 + 6 = -14$

3. $x^2 - 4x + 4 = -9$

4. $x^2 + 12x + 36 = -49$

5. $-3x^2 + 5x = 4$

6. $4x^2 + 22 = 18x$

7. $-7x = 2x^2 + 9$

8. $6x^2 = 4x - 9$

In Exercises 10–15, find the zeros of the function.

10. $f(x) = 5x^2 + 15$

11. $g(x) = 3x^2 + 21$

12. $f(x) = x^2 - x + 4$

13. $f(x) = x^2 + 10x + 25$

14. $k(x) = 3x^2 - 3x + 18$

15. $w(x) = -4x^2 + 2x - 3$