

1.7 Practice Set

1. What is the zero product property? How is it used to solve polynomial equations?
2. Write a quadratic equation that has 3 and -2 as solutions.

Solve each of the following equations for the indicated variable.

3. $(x + 5)(4x - 3) = 0$
4. $6(3x + 7)(2x - 1) = 0$
5. $x(3x - 11) = 4$
6. $y^2 - 8y = y(4 + y)$
7. $(4z + 5)(z - 2)(z + 7) = 0$
8. $r^3 = 16r$
9. $3t(t + 4) = 0$
10. $y^2 + 5y - 24 = 0$
11. $5z^3 + 30z^2 = 35z$
12. $x(3x - 2)(x - 1) = 0$
13. $x^2 + \frac{25}{4} = -5x$
14. $x^3 - x^2 = 12x - 12$
15. $7y^2 = -y$
16. $x(x - 4) = 3x^2 - 11x - 4$
17. $(x^2 + x - 6)(4x^2 + 8x - 5) = 0$
18. $(x^2 + 7x + 6)(x^2 - 10x + 25) = 0$

19. $3x(x - 2)(x + 1) = 0$

20. $y(y - 2) = 3$

Distributed Practice Problems

Solve each of the following equations for the indicated variable.

21. $|7x + 5| = -2$

22. $|3x - 8| = 13$

23. $T = 3RS - 4RT$ for T

Rewrite each of the following expressions by simplifying or factoring.

24. $3x^{-1}$

25. $64x^3 + 27y^3$