9 CHAPTER REVIEW

9.4 Solve Polynomial Equations in Factored Form

pp. 575–580

EXAMPLE

Solve $6x^2 + 42x = 0$.

$6x^2 + 42x = 0$ — Write original equation.

$6x(x + 7) = 0$ — Factor left side.

$6x = 0$ *or* $x + 7 = 0$ — Zero-product property

$x = 0$ *or* $x = -7$ — Solve for x.

▸ The solutions of the equation are 0 and −7.

EXERCISES

EXAMPLES 3 and 4 on p. 576 for Exs. 28–33

Solve the equation.

28. $2a^2 + 26a = 0$

29. $3t^2 - 33t = 0$

30. $8x^2 - 4x = 0$

31. $m^2 = 9m$

32. $5y^2 = -50y$

33. $21h^2 = 7h$

9.5 Factor $x^2 + bx + c$

pp. 583–589

EXAMPLE

Factor $x^2 + 2x - 63$.

Find two factors of −63 whose sum is 2. One factor will be positive, and the other will be negative. Make an organized list of factors.

Factors of −63	Sum of factors	
1, −63	1 + (−63) = −62	✗
−1, 63	−1 + 63 = 62	✗
3, −21	3 + (−21) = −18	✗
−3, 21	−3 + 21 = 18	✗
9, −7	9 + (−7) = 2	← Correct sum
−9, 7	−9 + 7 = −2	✗

▸ $x^2 + 2x - 63 = (x + 9)(x - 7)$

EXERCISES

EXAMPLES 1,2 and 3 on pp. 583–584 for Exs. 34–42

Factor the trinomial.

34. $n^2 + 15n + 26$

35. $s^2 + 10s - 11$

36. $b^2 - 5b - 14$

37. $a^2 + 5a - 84$

38. $t^2 - 24t + 135$

39. $x^2 + 4x - 32$

40. $p^2 + 9p + 14$

41. $c^2 + 8c + 15$

42. $y^2 - 10y + 21$