

Perform the indicated operations.

1.  $x(x + 2) =$  \_\_\_\_\_

2.  $x(x - 3) =$  \_\_\_\_\_

3.  $4x(x + 5) =$  \_\_\_\_\_

4.  $3x(x - 4) =$  \_\_\_\_\_

5.  $2x(3x + 4) =$  \_\_\_\_\_

6.  $5x(2x - 7) =$  \_\_\_\_\_

7.  $-5x(x + 5) =$  \_\_\_\_\_

8.  $-2x(4x - 3) =$  \_\_\_\_\_

Factor each of the following.

9.  $x^2 + 5x =$  \_\_\_\_\_

10.  $x^2 - 3x =$  \_\_\_\_\_

11.  $4x^2 + 24x =$  \_\_\_\_\_

12.  $2x^2 - 10x =$  \_\_\_\_\_

13.  $8x^2 + 12x =$  \_\_\_\_\_

14.  $14x^2 - 21x =$  \_\_\_\_\_

15.  $-5x^2 + 20x =$  \_\_\_\_\_

16.  $-18x^2 - 45x =$  \_\_\_\_\_

Perform the indicated operations.

17.  $(x + 5)(x - 5) =$  \_\_\_\_\_

18.  $(x - 3)(x + 3) =$  \_\_\_\_\_

19.  $(2x + 3)(2x - 3) =$  \_\_\_\_\_

20.  $(5x - 2)(5x + 2) =$  \_\_\_\_\_

Factor each of the following.

21.  $x^2 - 9 =$  \_\_\_\_\_

22.  $x^2 - 25 =$  \_\_\_\_\_

23.  $25x^2 - 36 =$  \_\_\_\_\_

24.  $81x^2 - 1 =$  \_\_\_\_\_

Perform the indicated operations.

25.  $(x + 6)(x + 2) =$  \_\_\_\_\_

26.  $(x + 8)(x + 3) =$  \_\_\_\_\_

27.  $(x - 1)(x - 9) =$  \_\_\_\_\_

28.  $(x - 6)(x - 6) =$  \_\_\_\_\_

29.  $(x + 3)(x - 7) =$  \_\_\_\_\_

30.  $(x + 2)(x - 5) =$  \_\_\_\_\_

31.  $(x - 2)(x + 3) =$  \_\_\_\_\_

32.  $(x - 4)(x + 8) =$  \_\_\_\_\_

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Factor each of the following.

33.  $x^2 + 5x + 6 =$  \_\_\_\_\_

34.  $x^2 + 6x + 5 =$  \_\_\_\_\_

35.  $x^2 - 9x + 14 =$  \_\_\_\_\_

36.  $x^2 - 10x + 21 =$  \_\_\_\_\_

37.  $x^2 - 5x - 6 =$  \_\_\_\_\_

38.  $x^2 - 3x - 10 =$  \_\_\_\_\_

39.  $x^2 + 3x - 18 =$  \_\_\_\_\_

40.  $x^2 + 5x - 24 =$  \_\_\_\_\_

41.  $x^2 + 8x + 16 =$  \_\_\_\_\_

42.  $x^2 - 6x + 9 =$  \_\_\_\_\_

Use the factoring method to solve each of the following equations. Show your process neatly organized.

43.  $x^2 + 8x = 0$

44.  $4x^2 - 12x = 0$

45.  $6x^2 + 9x = 0$

46.  $8x^2 - 4x = 0$

47.  $x^2 - 9 = 0$

48.  $16x^2 - 25 = 0$

49.  $81x^2 - 4 = 0$

50.  $x^2 + 7x + 12 = 0$

51.  $x^2 + 10x + 16 = 0$

52.  $x^2 - 15x + 56 = 0$

53.  $x^2 - 5x + 6 = 0$

54.  $x^2 - 3x - 28 = 0$

55.  $x^2 - 2x - 48 = 0$

56.  $x^2 + 3x - 4 = 0$

57.  $x^2 + 2x - 24 = 0$

58.  $x^2 + x - 56 = 0$

59.  $x^2 + 12x + 36 = 0$

60.  $x^2 - 6x + 9 = 0$