**Simplifying polynomial expressions**
Expand the following expressions (if necessary) and collect like terms.

1. $17x + 18x$

2. $-14x + 16x$

3. $x - 11x$

4. $-12x - 13x$

5. $\frac{3}{4}x + \frac{5}{4}x$

6. $-\frac{8}{15}y + \frac{11}{5}y$

7. $\frac{3}{7}x + x$

8. $xy^2 - 5xy + 7xy^2 + 15xy$

9. $-x^3y + 9x^3y - 10y - 19x^3y$

10. $-\frac{1}{2}xyz + 177 + \frac{1}{6}xyz$

11. $(2x)(4x)$

12. $-3x(5x)$

13. $3x(-7xy)$

14. $(12xy)(-3xy)$

15. $(-3xy^3)(-9x^2y)(3xy)$

16. $\frac{5x}{8} \cdot \frac{16}{5}$

17. $\left(\frac{4x}{3}\right)\left(\frac{3x}{16}\right)$

18. $\left(-\frac{3x^2}{2}\right)\left(\frac{4x^5}{18}\right)$

19. $\left(\frac{100x^2}{30}\right)\left(\frac{90x^3}{200}\right)$

20. $-3x(5x) + \frac{15}{2}x^2$

21. $3(x + 2)$

22. $12(y - 3x)$

23. $(2x - y)(-3)$

24. $-(8x - 4y) - 6x$

25. $7 - (x - 2)(-1)$

26. $2x - 11 + (1 - x)(-5)$

27. $x + y - (y - 5x)(-2)$

28. $-6z(6z - 1)$

29. $2x - y - (2x - y)(-3)$

30. $9z(3 - 6z) + 13z^2$

31. $3t[4 - (t - 3)] + t(t + 5)$

32. $2t[(t + 2) - 3t] - (t + 5)(4t)$

33. $-x(x + 1) - 2[x - (1 - x)]$

34. $\frac{3}{4}\left(\frac{8}{3} + \frac{16}{9}x\right)$

35. $\frac{2x}{3}(12x + 15) + 16x^2$

36. $\frac{6}{7}\left(\frac{49}{6} + \frac{14}{3}x\right)$

37. $(x + 6)(x - 8)$

38. $(2x + 3)^2$

39. $-(x - 1)(x + 1)$

40. $(2x + 1)(3x - 1)$

41. $\frac{3x}{5}(5 - 25x)$

42. $(x + y)^2$

43. $x^2 - (x + 1)(x - 1)$

44. $2(3y - 4x)(x + 2y)$

45. $(5x - \frac{1}{3})(9x + \frac{6}{5})$

46. $3x^2 - 6x - (x + 2)(x + 3)$

47. $-3x(2x + y)(x - 4y)$

48. $[3x - (5 - x)]^2$

49. $5(x + 3)(4x - 3) - 5x(x + 3)$

50. $2 - (1 - x)^2$

51. $2[x(x + 1) - 2(1 - x)] - (x - 1)(x + 3)$

52. $(2x - 5)^2 - (2x - 5) - x(x + 1)$

53. $-(2xy + 7y) + (5x - 3)(-xy + 3y)$

54. $(2x + 3)^2 + 8[(3 - x) - (x + 2)(x - 2)]$

55. $(x^3 + 8)(6 - 2x) - (x + 3)^2$

56. $(2a - 3)[1 - (4 + b)a] - 3ab$

57. $(2x + 1)^3$

58. $-[2x - (7x - 2)]^2 + \frac{2}{3}(9 - 6x)$

59. $3(x + 4)(x - \frac{1}{2}) - (2x + 1)(2x - 1)$

60. $(3x - 2)^3$

Answers:

1. $35x$

2. $2x$

3. $-10x$

4. $-25x$

5. $2x$

6. $\frac{5}{3}y$

7. $\frac{10}{7}x$

8. $8xy^2 + 10xy$

9. $-11x^3y - 10y$

10. $177 - \frac{1}{3}xyz$

11. $8x^2$

12. $-15x^2$

13. $-21x^2y$

14. $-36x^2y^2$

15. $81x^4y^5$

16. $2x$

17. $\frac{1}{4}x^2$

18. $-\frac{1}{3}x^7$

19. $\frac{3}{2}x^5$

20. $-\frac{15}{2}x^2$

21. $3x + 6$

22. $12y - 36x$

23. $-6x + 3y$

24. $-14x + 4y$

25. $x + 5$

26. $7x - 16$

27. $-9x + 3y$

28. $-36z^2 + 6z$

29. $8x - 4y$

30. $27z - 41z^2$

31. $26t - 2t^2$

32. $-8t^2 - 16t$

33. $-x^2 - 5x + 2$

34. $2 + \frac{4}{3}x$

35. $24x^2 + 10x$

36. $7 + 4x$

37. $x^2 - 2x - 48$

38. $4x^2 + 12x + 9$

39. $1 - x^2$

40. $6x^2 + x - 1$

41. $3x - 15x^2$

42. $x^2 + 2xy + y^2$

43. $1$

44. $12y^2 - 10xy - 8x^2$

45. $45x^2 + 3x - \frac{2}{5}$

46. $2x^2 - 11x - 6$

47. $-6x^3 + 21x^2y + 12xy^2$

48. $16x^2 - 40x + 25$

49. $15x^2 + 30x - 45$

50. $1 + 2x - x^2$

51. $x^2 + 4x - 1$

52. $3x^2 - 23x + 30$

53. $16xy - 16y - 5x^2y$

54. $-4x^2 + 4x + 65$

55. $-2x^4 + 6x^3 - x^2 - 22x + 39$

56. $14a - 8a^2 - 2a^2b - 3$

57. $8x^3 + 12x^2 + 6x + 1$

58. $-25x^2 + 16x + 2$

59. $-x^2 + \frac{21}{2}x - 5$

60. $27x^3 - 54x^2 + 36x - 8$