

Practice C

For use with pages 338–344

Find the sum or difference.

1. $(2x^3 + 3x^2 - 5x + 2) + (-3x^3 - 6x^2 + 2)$
2. $(4x^2 - 5x + 1) - (x^3 + x^2 - 3x + 4)$
3. $(-2x^2 + 7x - 7) - (3x^2 + 2x - 1)$
4. $(2x^3 - 6x + 4) + (3x^4 - 2x^3 + 4x^2 + 1)$
5. $(2x^2 + 3x + 1) + (x^2 + 3x - 4)$
6. $(5x^2 + 2x - 1) + (3x^2 - 7x + 1)$
7. $(5x^3 + 3x^2 - 4) - (1x^3 + 2x - 1)$
8. $(3x^3 + 3x - 5) - (1x^3 + 5x)$

Find the product.

9. $(3x + 5)(2x + 5)$
10. $(x - 7)(5x + 3)$
11. $(3x - 4)(8x - 1)$
12. $(x + 1)(x^2 - 2x + 1)$
13. $(x + 1)(2x^2 + 3x - 4)$
14. $(2x - 1)(x^2 + 3x + 2)$
15. $(2x + 1)(x^2 - x - 3)$
16. $(-x^2 + 3)(x^2 + 6x - 2)$
17. $(x^3 + x^2 + 3)(x^2 - 4x + 3)$
18. $(x^3 - 2x + 1)(x^3 + x^2 - 5)$
19. $(2x^3 + x)(x^4 + 3x^3 - 2x^2 + 1)$
20. $(6x + 5)(6x - 5)$
21. $(5x + 7)(5x - 7)$
22. $(5x - 7)(5x - 7)$
23. $(5x - 2)^2$
24. $(5x - 7)^3$
25. $(x + 2)^3$
26. $(x - 3)^3$
27. $(2x + 1)^3$
28. $(3x - 5)^3$
29. $(2x + 3y)^3$
30. $(4x - 3y)(4x + 3y)$
31. $(6x + y)^2$
32. $(x - 4y)^2$

Find the product of the binomials.

33. $(x + 3)(x + 2)(x - 1)$
34. $(x - 5)(x + 3)(x - 2)$
35. $(2x + 1)(x + 3)(x + 1)$
36. $(2x - 3)(2x - 5)(x - 1)$

37. **IRS Collection** The principal source of collections by the IRS include individual income and profit taxes, corporation income and profit taxes, employment taxes, estate and gift taxes, and other taxes. From 1992 through 1996, the amount of taxes collected in each of these categories can be modeled by

$$T = 7,810,103.714t^2 + 61,813,629.34t + 1,116,758,213 \quad (\text{Total collected})$$

$$C = 18,508,265.4t + 116,419,459 \quad (\text{Corporate income and profit})$$

$$E = 23,846,333.7t + 394,945,959.6 \quad (\text{Employment})$$

$$G = 133,820.25t^3 - 881,998.57t^2 + 2,915,045.54t + 1,328,112.36 \quad (\text{Estate and gift tax})$$

$$O = -948,356.5t^2 + 4,663,117.93t^2 - 1,314,761.71t + 33,361,964.86 \quad (\text{Other taxes})$$

where T , C , E , and G are in thousands of dollars and t is the number of years since 1992.

Write a model that represents the individual income and profit taxes I (in thousands of dollars) from 1992 to 1996.

Answer Key

Chapter 6

Lesson 6.3

Practice C

1. $-x^3 - 3x^2 - 5x + 4$
2. $-x^3 + 3x^2 - 2x - 3$
3. $-5x^2 + 5x - 6$
4. $3x^4 + 4x^2 - 6x + 5$
5. $\frac{3}{2}x^2 + \frac{11}{3}x - 2$
6. $x^2 - 5x - \frac{2}{3}$
7. $-\frac{3}{10}x^3 + 3x^2 - 2x + 1$
8. $-\frac{3}{8}x^2 + \frac{1}{6}x - 5$
9. $6x^2 + 25x + 25$
10. $5x^2 - 32x - 21$
11. $24x^2 - 35x + 4$
12. $x^3 - x^2 - x + 1$
13. $2x^3 + 5x^2 - x - 4$
14. $2x^3 + 5x^2 + x - 2$
15. $2x^3 - x^2 - 7x - 3$
16. $-x^4 - 6x^3 + 5x^2 + 18x - 6$
17. $x^5 - 3x^4 - x^3 + 6x^2 - 12x + 9$
18. $x^6 + x^5 - 2x^4 - 6x^3 + x^2 + 10x - 5$
19. $2x^7 + 6x^6 - 3x^5 + 3x^4 + x$
20. $36x^2 - 25$
21. $\frac{1}{4}x^2 - 49$
22. $\frac{16}{9}x^2 + \frac{40}{3}x + 25$
23. $25x^2 - 20x + 4$
24. $\frac{1}{9}x^2 - \frac{4}{9}x + \frac{4}{9}$
25. $x^3 + 6x^2 + 12x + 8$
26. $x^3 - 9x^2 + 27x - 27$
27. $8x^3 + 12x^2 + 6x + 1$
28. $27x^3 - 135x^2 + 225x - 125$
29. $8x^3 + 36x^2y + 54xy^2 + 27y^3$
30. $16x^2 - 9y^2$
31. $36x^2 + 12xy + y^2$
32. $x^2 - 8xy + 16y^2$
33. $x^3 + 4x^2 + x - 6$
34. $x^3 - 4x^2 - 11x + 30$
35. $2x^3 + 9x^2 + 10x + 3$
36. $4x^3 - 20x^2 + 31x - 15$
37. $I = 814,536.25t^3 + 4,028,984.354t^2 + 17,858,746.41t + 560,699,692.4$