

Practice and Problem Solving

Homework Help

Example	Exercises
1	12-19, 29-32
2	12-19, 29-32, 39
3	20-27, 28, 33-36
4	20-27, 28, 33-36



Online Resources
CLASSZONE.COM

- More Examples
- eTutorial Plus

Find the sum.

12. $(x^2 + x + 15) + (x^2 + x + 6)$
13. $(-x^2 - 9x) + (x^2 + 3x - 8)$
14. $(y^2 - 2y + 1) + (4y^3 - y - 5)$
15. $(y^4 - 5y^2) + (y^4 + 2y^2 - 9)$
16. $(-12z^2 - z + 3) + (2z^2 + 6z - 1)$
17. $(-4z^3 + 6z - 8) + (z^2 - 3z + 5)$
18. $(13m^3 + 12m) + (4m^2 - 8m + 5)$
19. $(3m^2 + 1) + (m^2 - 4m)$

Find the difference.

20. $(5a + 2) - (3a^2 + 1)$
21. $(8a^2 + 7a + 2) - (5a^2 + 4)$
22. $(4b^2 + 3b + 5) - (6b^2 + 7)$
23. $(b^3 - 5b^2 + b) - (-2b^3 - b^2 - b)$
24. $(4c^3 - 7c - 2) - (c^2 + 6c - 5)$
25. $(c^2 - c + 6) - (-3c^3 + c - 6)$
26. $(8d^4 + 5) - (7d^4 - 1)$
27. $(d^2 + 5d + 2) - (3d^2 + d + 2)$

28. **Extended Problem Solving** You want to cut 12 circles from a rectangular sheet of leather that measures $6r$ inches by $10r$ inches. Each circle has a radius of r inches.

- Write a polynomial expression for the area of the rectangular sheet.
- Analyze** Write a polynomial expression for the combined area of the 12 circles. Use 3.14 for π .
- Apply** What area of the rectangular sheet is unused?
- Visual Thinking** Could you cut *more* than 12 circles from the rectangular sheet? Draw a diagram and explain your answer.

Find the sum or difference.

29. $(13x - 4y) + (2x + 5y)$
30. $(-2r + 3s + 17t) + (15r - 7t)$
31. $(3cd + 2) + (-9cd - 4)$
32. $(8a^2b - 7a) + (2a^2b - 9b)$
33. $(m - 8n) - (-3m + 9n)$
34. $(6a + 7b) - (11a + 5b + 14c)$
35. $(2rs + 4r - 3s) - (13rs + 2r)$
36. $(2x^2 + 7y^2) - (x^2 - y^2 - 18)$

37. **Critical Thinking** What polynomial do you add to $x^2 + 5x + 1$ to get a sum of $4x^2 - 3$?

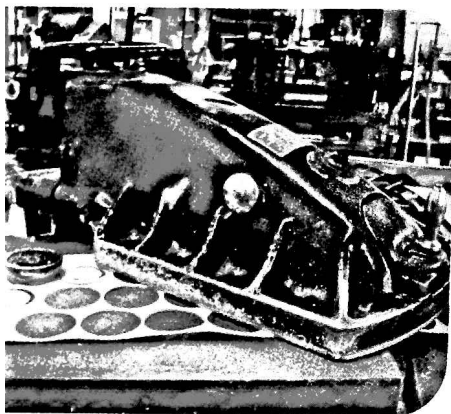
38. **Writing** Suppose two polynomials have the same degree. Will their sum have this degree also? Give an example to support your answer.

39. **Newspaper Advertising** The polynomials below approximate the amounts (in millions of dollars) spent on advertising in national and local newspapers for each year during the period 1990–2000. In each polynomial, x represents the number of years since 1990.

National: $59x^2 - 262x + 3888$

Local: $-33x^3 + 611x^2 - 1433x + 28,060$

Write a polynomial that gives the *combined* amount spent each year on national and local newspaper advertising.



A machine cuts circles of leather.