

8-4
EXERCISES

Chapter 8
Factoring Polynomials

Homework Help Online

Online Support for Lesson 8-4 Homework

GUIDED PRACTICE

Click a video icon to see a Lesson Tutorial Video. Click a pencil icon to practice similar problems.



VIDEO

See Example 1

Factor each trinomial by guess and check.

1. $2x^2 + 9x + 10$

2. $5x^2 + 31x + 6$

3. $5x^2 + 7x - 6$

4. $6x^2 + 37x + 6$

5. $3x^2 - 14x - 24$

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



PRACTICE



VIDEO

See Example 2

Factor each trinomial. Check your answer.

7. $5x^2 + 11x + 2$

8. $2x^2 + 11x + 5$

9. $4x^2 - 9x + 5$

10. $2y^2 - 11y + 14$

11. $5x^2 + 9x + 4$

12. $3x^2 + 7x + 2$



PRACTICE



VIDEO

See Example 3

13. $4a^2 + 8a - 5$

14. $15x^2 + 4x - 3$

15. $2x^2 + x - 6$

16. $6n^2 - 11n - 10$

17. $10x^2 - 9x - 1$

18. $7x^2 - 3x - 10$



PRACTICE



VIDEO

See Example 4

19. $-2x^2 + 5x + 12$

20. $-4n^2 - 16n + 9$

21. $-5x^2 + 7x + 6$

22. $-6x^2 + 13x - 2$

23. $-4x^2 - 8x + 5$

24. $-5x^2 + x + 18$



PRACTICE

PRACTICE AND PROBLEM SOLVING

Click a video icon to see a Lesson Tutorial Video. Click a lightbulb icon to see a complete solution.



VIDEO

Factor each trinomial by guess and check.

25. $9x^2 + 9x + 2$

26. $2x^2 + 7x + 5$

27. $3n^2 + 8n + 4$

28. $10d^2 + 17d + 7$

29. $4c^2 - 17c + 15$

30. $6x^2 + 14x + 4$

31. $8x^2 + 22x + 5$

32. $6x^2 - 13x + 6$

33. $5x^2 + 9x - 18$



VIDEO

Factor each trinomial. Check your answer.

34. $6x^2 + 23x + 7$

35. $10n^2 - 17n + 7$

36. $3x^2 + 11x + 6$

37. $7x^2 + 15x + 2$

38. $3n^2 + 4n + 1$

39. $3x^2 - 19x + 20$

40. $6x^2 + 11x + 4$

41. $4x^2 - 31x + 21$

42. $10x^2 + 31x + 15$



VIDEO

43. $12y^2 + 17y - 5$

44. $3x^2 + 10x - 8$

45. $4x^2 + 4x - 3$

46. $2n^2 - 7n - 4$

47. $3x^2 - 4x - 15$

48. $3n^2 - n - 4$



VIDEO

49. $-4x^2 - 4x + 15$

50. $-3x^2 + 16x - 16$

51. $-3x^2 - x + 2$



SOLUTION

Geometry For Exercises 52–54, write the polynomial modeled and then factor.

53.

$2x^2$	$-x$
$-4x$	2



Factor each trinomial, if possible.

55. $9n^2 + 17n + 8$



57. $4x^2 - 12x + 5$



59. $3x^2 + 14x + 16$



61. $6x^2 - x - 12$



SOLUTION

63. $4x^2 - 12x + 9$



SOLUTION

69. **Physics** The height of a football that has been thrown or kicked can be described by the expression $-16t^2 + vt + h$ where t is the time in seconds, v is the initial upward velocity, and h is the initial height in feet.
- Write an expression for the height of a football at time t when the initial upward velocity is 20 feet per second and the initial height is 6 feet.
 - Factor your expression from part a.
 - Find the height of the football after 1 second.