

For each quadratic trinomial tell whether its factorization will have the form

$$(px + r)(qx + s),$$

$$(px + r)(qx - s),$$

$$\text{or } (px - r)(qx - s),$$

where p , q , r , and s represent positive integers.

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

4. $5x^2 - 13x + 6$

5. $4x^2 + 8x + 3$

6. $4x^2 - 4x - 3$

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

8. $6x^2 + 5x + 1$

9. $3x^2 + 4x - 4$

10. $5x^2 - 11x + 2$

11. $8x^2 - 25x + 3$

12. $9x^2 + 6x - 8$

13. $14x^2 + 13x + 3$

14. $10x^2 - 10x - 9$

Written Exercises

Factor. Check by multiplying the factors. If the polynomial is not factorable, write *prime*.

A 1. $3x^2 + 7x + 2$

3. $3c^2 - 8c + 5$

5. $5y^2 + 4y - 1$

7. $5u^2 - 6u - 2$

9. $7x^2 + 8x + 1$

11. $5x^2 - 17x + 6$

13. $3p^2 + 7p - 6$

15. $4y^2 - y - 3$

17. $5 + 7x - 6x^2$

19. $1 - 5b - 8b^2$

21. $3m^2 + 11mn + 6n^2$

23. $2x^2 + xy - 3y^2$

2. $2x^2 + 5x + 3$

4. $2x^2 - 15x + 7$

6. $3a^2 + 4a - 4$

8. $3r^2 - 2r - 5$

10. $2p^2 + 7p + 3$

12. $7m^2 - 9m + 2$

14. $4c^2 + 4c - 3$

16. $6a^2 - 5a - 2$

18. $9 + 6k - 8k^2$

20. $7 - 12s - 4s^2$

22. $2p^2 - 7pq + 6q^2$

24. $5a^2 - 2ab - 7b^2$

B 25. $9m^2 - 25mn - 6n^2$

27. $6r^2 - 11rp + 5p^2$

29. $21c^2 + 4c - 12$

31. $6 + 7a - 20a^2$

33. $32n^2 - 4n - 15$

35. $21c^2 + 22c - 24$

26. $6h^2 + 17hk + 10k^2$

28. $4x^2 + 16xy - 9y^2$

30. $18z^2 + 19z - 12$

32. $8 + 45r - 18r^2$

34. $33u^2 - u - 14$

36. $35y^2 + 2y - 24$

C 37. $2(a + 2)^2 + 5(a + 2) - 3$

39. $2(a + 2b)^2 + 5(a + 2b)c - 3c^2$

41. $4x^4 - 17x^2 + 4$

43. $(y^2 + 3y - 1)^2 - 9$

38. $2(x - 1)^2 - 9(x - 1) - 5$

40. $2(x - y)^2 - 9(x - y)z - 5z^2$

42. $2x^4 - 15x^2 - 27$

44. $(a^2 - 4a - 1)^2 - 16$