

3.9 Factoring $ax^2 + bx + c$, $a \neq 1$

MATHPOWER™ 10, Western Edition, pp. 128–131

Factor, if possible.

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

2. $3y^2 + 5y + 1$

3. $2x^2 - 11x + 15$

4. $4n^2 + 7n - 5$

5. $3y^2 + y - 4$

6. $2a^2 - 13a + 21$

7. $20x^2 - 7x - 6$

8. $18y^2 + 15y - 18$

9. $5x^2 - 12x - 6$

10. $8m^2 + 6m - 20$

Factor.

11. $2x^2 + 5xy + 2y^2$

12. $3y^2 + 2yz - z^2$

13. $4t^2 - 7ts - 2s^2$

14. $15x^2 - 13xy + 2y^2$

15. $6m^2 + 7mn + n^2$

16. $4a^2 - 3ab - 9b^2$

17. $6x^2 - 2xy - 8y^2$

18. $18a^2 - 21ab + 6b^2$

19. $6m^2 - 13mn - 5n^2$

20. $9x^2 + 3xy - 20y^2$

21. $12a^2 + 28ab - 24b^2$

22. $4x^2 - xy - 18y^2$

23. The area of a rectangular lot in a new housing development can be represented approximately by the trinomial $12x^2 + 8x - 15$.

a) Factor the expression $12x^2 + 8x - 15$ to find binomials that represent the length and width of the lot.

b) If x represents 21 m, what are the length and width of the lot, in metres?