

Practice*Form K*Factoring $ax^2 + bx + c$

Factor each expression.

1. $3n^2 - 8n - 3$

2. $5a^2 - 22a + 8$

3. $2s^2 + 13s + 6$

4. $6t^2 + 21t - 12$

5. $9b^2 - 65b + 14$

6. $5z^2 + 11z + 6$

7. $7r^2 - 9r - 10$

8. $2m^2 + m - 21$

9. $3g^2 + 20g + 32$

10. The area of a rectangular driveway is $2x^2 + 15x + 25$. The width of the driveway is $x + 5$. What is the length of the driveway?

11. The area of a rectangular floor is $8x^2 + 6x - 20$. The width of the floor is $2x + 4$. What is the length of the floor?

12. The area of a rectangular desktop is $6x^2 - 3x - 3$. The width of the desktop is $2x + 1$. What is the length of the desktop?

Factor each expression completely.

13. $24n^2 + 2n - 12$

14. $72q^2 - 12q - 40$

15. $30j^2 - 27j - 21$

16. $60h^2 + 280h + 45$

17. $40a^2 + 126a + 44$

18. $45f^2 + 24f - 189$

Practice (continued)

Form K

Factoring $ax^2 + bx + c$

Open-Ended Find two different values that complete each expression so that the trinomial can be factored into the product of two binomials. Factor your trinomials.

19. $4n^2 + \square n - 3$

20. $12r^2 + \square + 6$

21. $24a^2 + \square a - 15$

22. $18b^2 + \square b + 8$

23. A parallelogram has an area of $8x^2 - 2x - 45$. The height of the parallelogram is $4x + 9$.

a. Write the formula for the area of a parallelogram.

b. What is the length of the base of the parallelogram?

c. **Writing** Explain how you solved the problem.

24. A rectangular athletic field has an area of $40x^2 + 190x - 50$. The width of the athletic field is $8x - 2$. What is the length of the athletic field?

Factor each expression.

25. $96d^2 - 76d - 77$

26. $48h^2 - 86h + 35$

27. $24m^2 + 18m - 15$

28. $36c^2 + 27c - 55$