

# The Weekly Rigor

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No. 318

“A mathematician is a machine for turning coffee into theorems.”

July 25, 2020

## 40 Problems in Factoring by the *ac*-Method (Part 7)

37.  $x^2 - 10x + 24$ .

38.  $x^2 - 23x + 42$ .

39.  $9x^2 - 6x + 1$ .

40.  $25x^2 + 10x + 1$ .

### ANSWERS

1. $(2x + 1)(x + 3)$	2. $(x + 1)(2x + 3)$
3. $(2x - 1)(x - 3)$	4. $(x - 1)(2x - 3)$
5. $(2x - 1)(x + 3)$	6. $(x - 3)(2x + 1)$
7. $(x - 1)(2x + 3)$	8. $(2x - 3)(x + 1)$
9. $(3x + 1)(x + 2)$	10. $(3x + 2)(x + 1)$
11. $(3x - 1)(x - 2)$	12. $(3x - 2)(x - 1)$
13. $(3x - 1)(x + 2)$	14. $(x - 2)(3x + 1)$
15. $(3x - 2)(x + 1)$	16. $(x - 1)(3x + 2)$
17. $(x^2 - 12)(x^2 + 3)$	18. $(x - 4)(2x + 5)$
19. $(a - 3c)(a + 7c)$	20. $(a^n - 7)(a^n + 12)$
21. $(3x + 2)(x - 1)$	22. $(2x - 1)(x + 3)$
23. $(3x - 5)(x + 1)$	24. $(2x - 1)(3x - 4)$
25. $(8x + 1)(x + 4)$	26. $(3x - 2)(3x - 1)$
27. $(9x - 4)(x + 1)$	28. $(5x - 1)(x - 3)$
29. $(x + 2)(3x + 4)$	30. $(x + 4)(3x + 2)$
31. $(x - 2)(3x - 4)$	32. $(x + 1)(5x - 2)$
33. $(2x + 1)(7x + 1)$	34. $(x + 2)(2x - 3)$
35. $(x + 3)(2x - 1)$	36. $(x - 2)(x + 6)$
37. $(x - 6)(x - 4)$	38. $(x - 21)(x - 2)$
39. $(3x - 1)^2$	40. $(5x + 1)^2$

“Only he who never plays, never loses.”