

# The Weekly Rigor

No. 309

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

May 23, 2020

## 30 Problems in Factoring by Finding the Greatest Common Factor (Part 2)

17.  $x(x + 5) + 3(x + 5)$ .

18.  $x(2x + 1) + 4(2x + 1)$ .

19.  $x^2(x - 3) + 12(x - 3)$ .

20.  $x^2(2x + 5) + 17(2x + 5)$ .

21.  $18x^2 - 27xy$ .

22.  $15x^3y^2 + 20x^4y$ .

23.  $12m^2n^2 - 48mn^3$ .

24.  $5abc - 5ac^2 + 15ab^2c$ .

25.  $6x^2 + 4xy - 8x^3$ .

26.  $9x^2y^2 - 6x^2y + 12x^2yz$ .

27.  $6a^4b + 21a^2b - 18a^3b^3$ .

28.  $3a^2b - abc - abd$ .

29.  $6a^4b^5 + 36a^3b^2 - 42a^3b^3$ .

30.  $15a^2b^4 + 20a^3b^5 - 25a^5b^2$ .

## ANSWERS

1. $9(2x + 3)$	2. $8(2x - 3)$
3. $2a(c - 2b)$	4. $x(2a + x)$
5. $ax(1 + ax)$	6. $3a^2(2b + 3ac)$
7. $4ab^2(2a^2 - 3b^2)$	8. $a^2b^2(2ax + 3by)$
9. $7ax^2(2z + 8b)$	10. $ac^2(1 - abc + dc^2)$
11. $xy(ax - a^2y^2 + dx^2)$	12. $5ax(4a^2x^2 - 9y^2)$
13. $3x(x + 2)$	14. $4x(x - 2)$
15. $9x^2(x^2 - 2x + 3)$	16. $6x^2(x^2 - 3x + 2)$
17. $(x + 5)(x + 3)$	18. $(2x + 1)(x + 4)$
19. $(x - 3)(x^2 + 12)$	20. $(2x + 5)(x^2 + 17)$
21. $9x(2x - 3y)$	22. $5x^3y(3y + 4x)$
23. $12mn^2(m - 4n)$	24. $5ac(b - c + 3b^2)$
25. $2x(3x + 2y - 4x^2)$	26. $3x^2y(3y - 2 + 4z)$
27. $3a^2b(2a^2 + 7 - 6ab^2)$	28. $ab(3a - c - d)$
29. $6a^3b^2(ab^3 + 6 - 7b)$	30. $5a^2b^2(3b^2 + 4ab^3 - 5a^3)$

“Only he who never plays, never loses.”