The Weekly Rigor

No. 321 "A mathematician is a machine for turning coffee into theorems." August 15, 2020

40 Problems in Factoring by the Difference of Squares

(Part 3)

33. $x^4 - y^4$.

34. $9x^4 - 16y^4$.

35. $25x^4 - 81y^4$.

36. $x^2 - 5$.

37. $x^2 - 10$.

38. $2x^2 - 50$.

39. $27x^2 - 48y^2$.

40. $a^8 - b^8$.

ANSWERS

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