

# The Weekly Rigor

No. 285

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

December 7, 2019

## 60 Problems in Factoring by a Mixture of Methods (Part 2)

31.  $7xy^2 - 28x^5 + y^2 - 4x^4$

32.  $20x^3 + 50x^2 - 30x$

33.  $27 + 8x^3$

34.  $24r^4 + 40r^3 + 30r^2 + 50r$

35.  $27x^3 - 1$

36.  $3x^5 - 3x + 5x^4 - 5$

37.  $3x^2 + 5xy + 2y^2$

38.  $e^{2x} - 1$

39.  $64 + x^3$

40.  $1 - \cos^2(\theta)$

41.  $e^{3x} - \ln^3(x)$

42.  $e^{3x} - 2e^{2x} + 5e^x - 10$

43.  $8 - x^3$

44.  $3e^{2x} - 2e^x - 5$

45.  $x^3 + 27$

46.  $e^{4x} - 16$

47.  $18e^{3x} - 33e^{2x} + 12e^x$

48.  $x^2y^2 - 9$

49.  $9x^2 - 6x + 1$

50.  $\ln^2(x) - 9$

51.  $\ln^3(x) + 8$

52.  $\sin^2(x) - \cos^2(x)$

53.  $\sin^2(\theta) - 1$

54.  $\ln^3(x) - 27$

55.  $e^{2x} - 16$

56.  $e^{3x} - 8$

57.  $e^{4x} - e^{2x}$

58.  $e^{3x} + 1$

59.  $e^{2x} \sin^2(x) - x^2 \ln^2(x)$

60.  $2x^2 - 9xy + 4y^2$

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“Only he who never plays, never loses.”

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