

# The Weekly Rigor

No. 333

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

November 7, 2020

## 30 Problems in Reducing Complex Fractions to Simple Fractions (Part 4)

$$25. \frac{\frac{1}{x} - \frac{1}{4}}{x-4}.$$

$$26. \frac{\frac{1}{x} - \frac{1}{a}}{x-a}.$$

$$27. \frac{\frac{1}{5} - \frac{1}{3}}{2}.$$

$$28. \frac{\frac{1}{3+h} - \frac{1}{3}}{h}.$$

$$29. \frac{\frac{1}{x+h} - \frac{1}{x}}{h}$$

$$30. \frac{\frac{1}{x+\Delta x} - \frac{1}{x}}{\Delta x}$$

### ANSWERS

1. $\frac{a^2-2b}{2a+2}$	2. $\frac{a(c+1)}{c(a^2+1)}$	3. $\frac{c+1}{c-1}$	4. $\frac{x-y}{a-b}$	5. $\frac{1}{a+1}$
6. $n + 1$	7. $2y$	8. $\frac{9x}{10y^2}$	9. $\frac{30}{11}$	10. $27$
11. $\frac{y(3y+2x)}{5y^2-6x}$	12. $\frac{y(y+3x)}{2(2y^2-x)}$	13. $\frac{y^2(9x+7)}{x^2(5y+3)}$	14. $\frac{4b-3a}{b(b+3a)}$	15. $\frac{y+x}{2xy}$
16. $\frac{n-m}{3mn}$	17. $\frac{-3xy}{2y-3x}$	18. $\frac{-5xy}{4(y-2x)}$	19. $\frac{y(2-3x)}{x(3+4y)}$	20. $\frac{x+3}{x-6}$
21. $\frac{3n+14}{5n+19}$	22. $\frac{-2n+13}{n-9}$	23. $\frac{x^2+x+1}{x+1}$	24. $\frac{-n^2+n-1}{n-1}$	25. $\frac{-1}{4x}$
26. $\frac{-1}{ax}$	27. $\frac{-1}{15}$	28. $\frac{-1}{3(3+h)}$	29. $\frac{-1}{x(x+h)}$	30. $\frac{-1}{x(x+\Delta x)}$

“Only he who never plays, never loses.”