

# The Weekly Rigor

No. 290

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

January 11, 2020

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## 10 Problems in Solving First-Degree Equations

### PROBLEMS

Solve each equation.

1.  $3x - 4 = 12 - x$ .

2.  $4x + 6 = 2x + 10$ .

3.  $5x + 4 - 2x = 10 + x$ .

4.  $18 - 3x = 5x + 2$ .

5.  $7x + 6 = 5x + 14$ .

6.  $4x + 2 = 22$ .

7.  $-6(x - 4) - 10 = -12$ .

8.  $7m + 5 = 7m - 3$ .

9.  $6n + 4 = 9n + 4 - 3n$ .

10.  $2(x + 3) + 6(x - 4) = 5(x - 9)$ .

### ANSWERS

1. 4	2. 2
3. 3	4. 2
5. 4	6. 5
7. $\frac{13}{3}$	8. $\emptyset$ (the empty set, i.e., no solution)
9. $\mathbb{R}$ (math talk for “all real numbers”)	10. $-9$

“Only he who never plays, never loses.”