The Weekly Rigor

No. 324   "A mathematician is a machine for turning coffee into theorems."   September 5, 2020

20 Problems in Solving Equations
(Part 3)

17. $x^3 + x^2 = 0.$

18. $6x^3 + 21x^2 + 6x + 21 = 0.$

19. $9x^4 - 144x^2 = 0.$

20. $4t^3 - 4t = 0.$

ANSWERS

1. $x = -6$ or $x = \frac{-3}{2}$	2. $x = 0$ or $x = 3$
3. $x = -2$ or $x = \frac{-4}{3}$	4. $n = 0$
5. $x = 0$ or $x = \frac{1}{3}$ or $x = 1$	6. $x = \frac{2}{3}$ or $\sqrt{2}$ or $-\sqrt{2}$
7. $\theta = -5$ or $\theta = 5$	8. $\alpha = -3$ or $\alpha = -7$
9. $a = 3$ or $a = -3$	10. $x = 1$ or $x = 3$
11. $x = 5$ or $x = -5$	12. $x = \frac{-4}{3}$ or $x = -2$
13. $x = -2$ or $x = 2$ or $x = \frac{-3}{5}$	14. $x = 0$ or $x = \frac{-2}{3}$ or $x = 1$
15. $x = 0$ or $x = 1$	16. $t = \frac{-3}{5}$ or $t = -4$
17. $x = 0$ or $x = -1$	18. $x = \frac{-7}{2}$
19. $x = 0$ or $x = -4$ or $x = 4$	20. $t = 0$ or $t = -1$ or $t = 1$