Taller 1.1 (17 - 46)

17) $\frac{4x}{4} = \frac{10}{4}$

$x = \frac{5}{2}$

$x = 2,5$

18) $0.2x = 7$

$x = \frac{7}{0.2}$

$x = 35$

19) $3y = 0$

$y = \frac{0}{3}$

$y = 0$

20) $2x - 4x = -5$

$x = 2x - 4x - 2x$

$x = \frac{-2x}{2} = \frac{-5}{2}$

$x = \frac{5}{2}$

21) $-5x = 10 - 15$

$x = 10 - 15 = -5$

$x = -5x = -5$

$x = 1.$

22) $3 - 2x = 4$

$-2x = 4 - 3$

$-2x = 1$

$x = \frac{1}{-2}$

$x - \frac{1}{2}$

$x = -0,5$

23) $5x - 3 = 9$

$5x = 9 - 3$

$x = \frac{12}{5}$

$X = 2,4$

24) $\sqrt{2x} + 3 = 8$

$\sqrt{2x} = 8 - 3$

$(\sqrt{2x})^2 = (5)^2$

$2x = 25$

$x = \frac{25}{2}$

25) $7x + 7 = 2(x + 1)$

$7x + 7 = 2x + 2$

$7x - 2x = 2 - 7$

$5x = -5$

$x = \frac{-5}{5}$

$X = -1$

26) $6z + 5z - 3 = 41$

$11z = 41 + 3$

$11z = 44$

$z = \frac{44}{11}$

$z = 4$

27)

$2(p-1) - 3(p-4) = 4p$

$2p - 2 - 3p + 12 = 4p$

$2p - 3p - 4p = 2 - 12$

$-5 = -10$

$p = \frac{-10}{-5}$

$p = 2$

28) $t + 2 - 2[2t - 3(1 - t)]$

$t = 2 - 2[2t - 3 + 3t]$

$t = 2 - 2[5t - 3]$

$t = 2 - 10t + 6$

$t = -10t + 8$

$t + 10t = 8$

$11t = \frac{8}{11}$

$t = 0,72$

29) $\frac{x}{5} = 2x - 6$

$x = 5(2x - 6)$

$x = 10x - 30$

$x - 10x = -30$

$-9x = -30$

$x = \frac{-30}{-9}$

$x = \frac{10}{3}$

$x = 3,3$

30) $\frac{5y}{7} - \frac{6}{7} = 2 - 4y$

$\frac{7(5y-6)}{7} = 7(2 - 4y)$

$5y - 6 = 14 - 28y$

$5y + 28y = 14 + 6$

$33y = 20$

$y = \frac{20}{33}$

31) $7 + \frac{4x}{9} = \frac{x}{2}$

$\frac{4x}{9} - \frac{x}{2} = -7$

$\frac{8x - 9x}{18} = -7$

$\frac{-x}{18} = -7$

$(-1) \cdot -x = -126 \cdot (-1)$

$x = 126$

32) $\frac{x}{3} - 4 = \frac{x}{5}$

$\frac{x}{3} - \frac{x}{5} = 4$

$\frac{5x - 3x}{15} = 4$

$\frac{2}{15}x = 4$

$2x = 4 \cdot 15$

$x = \frac{4 \cdot 15}{2}$

$x = \frac{60}{2}$

$x = 30$

33) $9 = \frac{3}{2}9 - 4$

$\frac{19}{1} - \frac{3}{2}9 = -4$

$-\frac{1}{2}9 = -4$

$-9 = -4 \cdot 2$

$(-1) \cdot -9 = -8 \cdot (-1)$

$9 = 8$

34) $\frac{x}{2} + \frac{x}{3} = 7$

$\frac{3x+2x}{6} = 7$

$\frac{5x}{6} = 7$

$5x = 7 \cdot 6$

$5x = 42$

$x = \frac{42}{5}$

$x = 8,4$

35) $3x + \frac{x}{5} - 5 = \frac{1}{5} + 5x$

$\frac{3x}{1} + \frac{x}{5} - \frac{5x}{1} = \frac{1}{5} + \frac{5}{1}$

$\frac{15x+x}{5} - \frac{5x}{1} = \frac{1}{5} + \frac{5}{1}$

$\frac{16x}{5} - \frac{5x}{1} = \frac{1+25}{5}$

$\frac{16x-25x}{5} = \frac{26}{5}$

$\frac{-9}{5}x = \frac{26}{5}$

$x = \frac{\frac{26}{5}}{-\frac{9}{5}} = -\frac{130}{45}$

$x = \frac{26}{9}$

36) $\frac{y}{1} - \frac{y}{2} + \frac{y}{3} - \frac{y}{4} = \frac{y}{5}$

$\frac{60y}{1} - \frac{60y}{2} + \frac{60y}{3} - \frac{60y}{4} = 0$

$60y - 30y + 20y - 15y - 12y = 0$

$60y + 20y - 30y - 15y - 12y = 0$

$80y - 47y = 0$

$33y = 0$

$y = \frac{0}{33}$

$y = 0$

37) $\frac{2y-3}{4} = \frac{6y+7}{3}$

$3(2y-3) = 4(6y+7)$

$6y - 9 = 24y + 28$

$6y - 24y = 28 + 9$

$-18y = 37$

$y = \frac{37}{-18}$

$y = -\frac{37}{18}$

38) $\frac{p}{3} + \frac{3}{4}p = \frac{9}{2}(p-1)$

$\frac{p}{3} + \frac{3}{4}p = \frac{9}{2}p - \frac{9}{2}$

$4p + 9p = 54p - 54$

$4p + 9p - 54p = 54$

$\frac{-41p}{-41} = \frac{54}{-41}$

$p = \frac{54}{41}$

39) $\frac{w}{w+2} - \frac{w}{3} + \frac{w}{4} = 5$

$12w + 6w - 4w + 3w = 60$

$\frac{17w}{17} = \frac{60}{17}$

$w = \frac{60}{17}$

40) $\frac{7+2(x+1)}{3} = \frac{6x}{5}$

$\frac{7+2x+2}{3} = \frac{6x}{5}$

$\frac{9+2x}{3} = \frac{6x}{5}$

$5(9+2x) = 3(6x)$

$45 + 10x = 18x$

$10x - 18x = 45$

$\frac{-8x}{-8} = \frac{45}{-8}$

$x = \frac{45}{-8}$

41) $\frac{x+2}{3} - \frac{2-x}{6} = x - 2$

$2(x+2) - (2-x) = 6x - 12$

$2x + 4 - 2 + x = 6x - 12$

$2x + x - 6x = -12 - 4 + 2$

$\frac{-3x}{-3} = \frac{-14}{-3}$

$x = \frac{14}{3}$

42) $\frac{x}{5} + \frac{2(x-4)}{10} = 7$

$\frac{x}{5} + \frac{2x-8}{10} = 7$

$2x + 2x - 8 = 70$

$2x + 2x = 70 + 8$

$\frac{4x}{4} = \frac{78}{4}$

$x = \frac{39}{2}$

43) $\frac{9}{5}(3-x) = \frac{3}{4}(x-3)$

$36(3-x) = 15(x-3)$

$108 - 36x = 15x - 45$

$-36x - 15x = -45 - 108$

$\frac{-21x}{-21} = \frac{-63}{-21}$

$x = 3$

44. $\frac{2y-7}{3} + \frac{8y-9}{14} = \frac{3y-5}{21}$

$14(2y-7) + 3(8y-9) = 2(3y-5)$

$28y - 98 + 24y - 27 = 6y - 10$

$28y + 24y - 6y = -10 + 98 + 27$

$\frac{46y}{46} = \frac{115}{46}$

$y = \frac{115}{46} = 2,5$

45) $\frac{3}{2}(4x-3) = 2[x-(4x-3)]$

$6x - \frac{9}{2} = 2(x - 4x + 3)$

$6x - \frac{9}{2} = 2(-3x + 3)$

$6x - \frac{9}{2} = -6x + 6$

$6x + 6x = 6 + \frac{9}{2}$

$\frac{12x}{12} = \frac{21}{2}$

$x = \frac{7}{8}$

46) $(3x-1)^2 - (5x-3)^2 = -(4x-2)^2$

$9x^2 - 6x + 1 - (25x^2 - 30x + 9) = -(16x^2 - 16x + 4)$

$9x^2 - 6x + 1 - 25x^2 + 30x - 9 = -16x^2 + 16x - 4$

$-16x^2 + 24x - 8 = -16x^2 + 16x - 4$

$24x - 8 = 16x - 4$

$8x = -4 + 8 \quad = \quad 8x = 4 \quad = \quad x = \frac{1}{2}$