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363) a) $4(x-1) = 8$
 $4x - 4 = 8$
 $4x = 12$
 $x = 3$

b) $(-2)(5-x) = 3(4+x)$
 $-10 + 2x = 12 + 3x$
 $-22 = x$

c) $4(2-a) = 5(2a-3) - 5$
 $8 - 4a = 10a - 15 - 5$
 $28 = 14a$
 $a = 2$

d) $2(x-1) = 5 + 2x$
 $2x - 2 = 5 + 2x$
 ni reš.

e) $11 - 2(b-5) = (-3)(3-b)$
 $11 - 2b + 10 = -9 + 3b$
 $30 = 5b$
 $b = 6$

f) $4(2-2(x+2)) = 5 - (-2)(x-3)$
 $4(2-2x-4) = 5 - (-2x+6)$
 $-8 - 8x = 5 + 2x - 6$
 $-7 = 10x$
 $x = -7/10$

g) $5(2+x) - 3(3+x) = 2x + 1$
 $10 + 5x - 9 - 3x = 2x + 1$ ni reš.

364) I) $7 \cdot (5 - 2 \cdot (-3)) = 11 \cdot (-2)^2 - 3(2 \cdot (-3) - 5)$
 $7 \cdot (5 + 6) = 11 \cdot 4 - 3(-6 - 5)$
 $77 = 44 + 33$
 $77 = 77$

$7(5-2x) = 11 \cdot (-2)^2 - 3(2x-5)$
 $35 - 14x = 44 - 6x + 15$
 $-9 - 15 = 8x$
 $-24 = 8x$
 $x = -3$
 preverimo: -3 pade $-3 = -3$

365) a) $(x-2)(x+3) = x(x-1)$
 $x^2 + 3x - 2x - 6 = x^2 - x$
 $2x = 6$
 $x = 3$

b) $2(x-4)(x-2) - x(2x-5) = 2$
 $2(x^2 - 2x - 4x + 8) - 2x^2 + 5x = 2$
 $2x^2 - 4x - 8x + 16 - 2x^2 + 5x = 2$
 $-7x = -14$
 $x = 2$

c) $(a+4)^3 - a(a+6)(a-4) = 10a^2$
 $a^3 + 3 \cdot 4 \cdot a^2 + 3a \cdot 16 + 4^3 - a(a^2 - 4a + 6a - 24) = 10a^2$
 $a^3 + 12a^2 + 48a + 64 - a^3 + 4a^2 - 6a^2 + 24a = 10a^2$
 $72a = -64$
 $a = -64/72 = -8/9$

d) $(8a^2-3)(a+4) - (2a-1)^3 = 2(22a^2-1)$
 $= 8a^3 + 32a^2 - 3a - 12 - (8a^3 - 12a^2 + 4a - 1) = 44a^2 - 2$
 $-7a = 9$

$$366) \quad (x+2)^3 - x(x-5)(x+5) + 20 = 6x(x-1) + x$$

$$\left(-\frac{2}{3} + \frac{6}{3}\right)^3 + \frac{2}{3} \cdot \left(-\frac{2}{3} - 5\right) \cdot \left(-\frac{2}{3} + 5\right) + 20 = 6 \cdot \left(-\frac{2}{3}\right) \cdot \left(-\frac{2}{3} - \frac{3}{3}\right) - \frac{2}{3}$$

$$\left(\frac{4}{3}\right)^3 + \frac{2}{3} \cdot \left(\frac{4}{9} - 25\right) + 20 = -4 \cdot \left(-\frac{5}{3}\right) - \frac{2}{3}$$

$$\frac{64}{27} + \frac{2}{3} \cdot \frac{(-221)}{9} + 20 = \frac{20}{3} - \frac{2}{3}$$

$$\frac{64}{27} - \frac{442}{27} + 20 = \frac{18}{3}$$

$$L: -414 + 20 = 6$$

$$6 = 6 \quad \checkmark$$

$$(x+2)^3 - x(x-5)(x+5) + 20 = 6x(x-1) + x$$

$$\cancel{x^3} + \cancel{6x^2} + \cancel{12x} + 8 - x(x^2 - 25) + 20 = \cancel{6x^2} - \cancel{6x} + x$$

$$\cancel{x^3} + 17x + 28 - \cancel{x^3} + 25x = 0$$

$$42x + 28 = 0$$

$$42x = -28$$

$$x = -28/42 = -\frac{4}{6} = -\frac{2}{3} \checkmark$$

$$367) \quad a) \quad m = \rho \cdot V \Rightarrow V = \frac{m}{\rho}$$

$$b) \quad \rho = \frac{F}{S} \Rightarrow S = \frac{F}{\rho}$$

$$c) \quad \frac{F_1}{S_1} = \frac{F_2}{S_2} \Rightarrow S_2 \cdot F_1 = F_2 \cdot S_1 \Rightarrow S_2 = \frac{F_2 \cdot S_1}{F_1}$$

$$d) \quad v_1 \cdot F_1 = (v_2) \cdot F_2 \Rightarrow v_2 = \frac{v_1 \cdot F_1}{F_2}$$

$$d) \quad N - (m_1 + m_2)g = 0 \quad m_1 = \frac{N}{g} - m_2$$

$$e) \quad N = N_0 + (t - t_0) \cdot a \quad \frac{N - N_0}{a} = t - t_0$$

$$t_0 = t - \frac{N - N_0}{a} = \frac{ta - N + N_0}{a}$$

$$f) \quad F = G \frac{(m)M}{r^2} = \left(\frac{F}{e} \cdot v^2\right) \cdot \frac{1}{H} = m$$

$$g) \quad \frac{1}{a} + \frac{1}{b} = \frac{1}{f}$$

$$\frac{1}{b} = \frac{1}{f} - \frac{1}{a} = \frac{a}{fa} - \frac{f}{fa} = \frac{a-f}{fa}$$

$$b = \frac{fa}{a-f}$$

$$368) a) \frac{x}{3} + \frac{2x-1}{2} = \frac{1}{6} \quad | \cdot 6$$

$$\begin{aligned} 2x + 3(2x-1) &= 1 \\ 2x + 6x - 3 &= 1 \\ 8x &= 4 \\ x &= 1/2 \end{aligned}$$

$$b) \frac{x}{4} + \frac{x-5}{2} + \frac{1}{8} = 1 \quad | \cdot 8$$

$$\begin{aligned} 2x + 4(x-5) + 1 &= 8 \\ 2x + 4x - 20 + 1 &= 8 \\ 6x &= 27 \\ x &= 27/6 = 9/2 \end{aligned}$$

$$c) \frac{a}{4} + \frac{1-3a}{2} = \frac{1}{3} \quad | \cdot 12$$

$$\begin{aligned} 3a + 6 - 18a &= 4 \\ 2 &= 15a \\ a &= 2/15 \end{aligned}$$

$$d) \frac{3y}{2} - \frac{y-4}{5} + 2 = \frac{1}{5} \quad | \cdot 10$$

$$\begin{aligned} 15y - 2y + 8 + 20 &= 2 \\ 13y &= 26 \\ y &= 2 \end{aligned}$$

$$e) \frac{1}{2} \left(\frac{3}{4} - \frac{z-4}{5} \right) = 2^{-1} \quad | \cdot 2$$

$$\begin{aligned} \frac{3}{4} - \frac{z-4}{5} &= 1 \quad | \cdot 20 \\ 15 - 4z + 16 &= 20 \\ 11 &= 4z \\ z &= 11/4 \end{aligned}$$

$$f) -2 \frac{z}{5} - 3 \cdot \frac{3-u}{4} = 1 - \frac{u-3}{10}$$

$$- \frac{12}{5} - \frac{9-3u}{4} = 1 - \frac{u-3}{10} \quad | \cdot 20$$

$$\begin{aligned} -48 - 45 + 15u &= 20 - 2u + 6 \\ 17u &= 119 \\ u &= 7 \end{aligned}$$

$$g) \left(\frac{3}{x-2} \right)^{-1} + \frac{5}{6} = 2 \frac{x-3}{2} - \frac{36x}{24}$$

$$\frac{x-2}{3} + \frac{11}{6} = \frac{2x-6}{2} - \frac{36x}{24} \quad | \cdot 24$$

$$\begin{aligned} 8x - 16 + 44 &= 24x - 72 - 36x \\ 20x &= -100 \\ x &= -5 \end{aligned}$$

$$369) a) \frac{x+4}{x-2} = 2$$

$$\begin{aligned} x+4 &= 2x-4 \\ 8 &= x \end{aligned}$$

$$b) \frac{x-3}{x+4} = \frac{x+2}{x-5}$$

$$\begin{aligned} (x-3)(x-5) &= (x+2)(x+4) \\ x^2 - 5x - 3x + 15 &= x^2 + 4x + 2x + 8 \end{aligned}$$

$$\begin{aligned} -8x + 15 &= 6x + 8 \\ 7 &= 14x \\ x &= 1/2 \end{aligned}$$

$$c) \frac{x}{x+1} - \frac{1+x}{x} = 0$$

$$\begin{aligned} \frac{x^2}{(x+1)x} - \frac{(1+x)^2}{x(x+1)} &= 0 \\ x^2 - x^2 - 2x - 1 &= 0 \\ x(x+1) &= 0 \end{aligned}$$

$$\frac{2x+1}{x(x+1)} = 0$$

$$\begin{aligned} 2x &= -1 \\ x &= -1/2 \end{aligned}$$

$$d) \frac{1}{x-1} + \frac{2}{x+1} = \frac{3}{x} \quad | (x+1)(x-1) \cdot x$$

$$\begin{aligned} x \cdot (x+1) + 2(x-1) \cdot x &= 3(x^2-1) \\ x^2 + x + 2x^2 - 2x &= 3x^2 - 3 \\ -2x &= 2x^2 - 3 \end{aligned}$$

$$\begin{aligned} -x &= -3 \\ x &= 3 \end{aligned}$$

$$d) \frac{2}{x-3} - \frac{3}{x+2} = \frac{1-x}{x^2-x-6} = (x-3)(x+2)$$

$$2 \cdot (x+2) - 3 \cdot (x-3) = 1-x$$

$$2x+4 - 3x+9 = 1-x$$

$$0=0$$

$$e) \frac{1}{2x-1} + \frac{1}{2x+1} - \frac{1}{x+2} = 0$$

$$\frac{(2x+1)(x+2) + (2x-1)(x+2) - (2x-1)(2x+1)}{(2x-1)(2x+1)(x+2)} = 0$$

$$\cancel{2x+1}x + \cancel{2x+1}x + 2 + 2x - 1 - \cancel{2x-1}2x - \cancel{2x-1}1 = 0$$

$$8x = -1$$

$$x = -\frac{1}{8}$$

$$f) \frac{x-3}{x+2} + \frac{x+4}{x-1} = \frac{2x^2}{x^2+x-2} = (x+2)(x-1)$$

$$\frac{(x-3)(x-1)}{(x+2)(x-1)} + \frac{(x+4)(x+2)}{(x+2)(x-1)} = \frac{2x^2}{(x+2)(x-1)} \quad | \cdot (x+2)(x-1)$$

$$\cancel{x-1}x - 3\cancel{x+2} + \cancel{x+2}x + 4x + 8 = 2x^2$$

$$2x = -11$$

$$x = -11/2$$

$$g) \frac{4x^2+2x}{8x^3+1} - \frac{2x+1}{4x^2+1} = 0$$

$$\frac{2x(2x+1)}{(2x+1)(4x^2-2x+1)} - \frac{2x+1}{4x^2+1} = 0$$

$$2x(4x^2+1) - (2x+1)(4x^2-2x+1) = 0$$

$$\cancel{8x^3} + 2x - \cancel{8x^3} + 4x^2 - 4x^2 - 2x + 2x + 1 = 0$$

$$2x = -1$$

$$x = -1/2$$

$$h) \frac{x-3}{x^2-27} + 1 = \frac{x + \frac{29}{9}}{x+3}$$

$$\frac{\cancel{x-3}}{(x-3)(x^2+3x+9)} = \frac{x + \frac{29}{9} - x - 3}{x+3}$$

$$9(x+3) = 2(x^2+3x+9)$$

$$0 = 2x^2 - 3x - 9$$

$$0 = (2x-6)(x+\frac{3}{2})$$

$$x \neq -3$$

$$(x+3)$$

$$x \neq 3$$

$$(x^2-27)$$

$$x^3 \neq 27$$

$$x \neq 3$$

$$x_1 \Rightarrow 2x=6 \text{ glij pogaje}$$

$$\underline{x \neq 3}$$

$$x_2 \Rightarrow x = \underline{\underline{-\frac{3}{2}}}$$