3 Rovnice

Rovnice (lineární) mohou mít
   a) 1 řešení (vyjde např. $x = 3$),
   b) žádné řešení (vyjde např. $0 = 3, 0x = 3\ neplatí$),
   c) nekonečně mnoho řešení (vyjde např. $0 = 0, 8 = 8, 0x = 0\ platí$)

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① **Řešte rovnici a proveďte zkoušku (v záznamovém archu** uveďte **celý postup řešení):**

$$\frac{2}{1} \cdot \frac{x+1}{4} - x = \frac{x-1}{3}$$

$$\frac{x+1}{2} - x = \frac{x-1}{3} \quad / \cdot 6$$

$$3(x+1) - 6x = 2(x-1)$$

$$3x + 3 - 6x = 2x - 2$$

$$-3x + 3 = 2x - 2 \quad / -2x - 3$$

$$-3x - 2x = -2 - 3$$

$$-5x = -5 \quad / : (-5)$$

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

$$x = 1$$

Zkouška:

$$L = 2 \cdot \frac{1+1}{4} - 1 = \frac{2}{2} - 1 = 1 - 1 = 0$$

$$P = \frac{1-1}{3} = \frac{0}{3} = 0 \qquad \left[\frac{0}{3} = 0\ !\right]$$

$$L = P$$

$$\text{nebo}$$
$$-3x + 3 = 2x - 2 \quad / + 3x + 2$$
$$5 = 5x \quad / : 5$$
$$1 = x$$
$$x = 1$$

$$\text{nebo}$$
$$-5x = -5 \quad / \cdot (-1)$$
$$5x = 5 \quad / : 5$$
$$x = 1$$

$$\text{nebo}$$
$$2 \cdot \frac{x+1}{4} - x = \frac{x-1}{3}$$

$$\frac{2}{1} \cdot \frac{x+1}{4} - x = \frac{x-1}{3} \qquad \text{krátit} \Rightarrow 1.\ \text{kr.}$$

$$\frac{2(x+1)}{4} - x = \frac{x-1}{3} \qquad \text{JINAK} \quad /\cdot 12$$

$$3 \cdot 2(x+1) - 12 = 4(x-1)$$

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

$$6x - 6 = 4x - 4 \quad / : 2$$

$$3x - 3 = 2x - 2 \qquad \text{dál 1. kr.}$$

$$6x - 6 = 4x - 4 \quad / - 4x + 6$$

$$2x = 2 \quad / : 2$$

$$x = 1$$

POZOR!
$$\left[2 \cdot \frac{x+1}{4} - x = \frac{x-1}{3} \quad / \cdot 12 \right.$$
$$\left. 12 \cdot 2 \cdot 3 \cdot (x+1) - 12 = 4(x-1) \right]$$
NE proto dál na zlomek

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② **Řešte rovnici (v záznamovém archu** uveďte **celý postup řešení**, zkoušku nezapisujte):

a)

$$-\frac{2}{3} \cdot \frac{x}{2} = \frac{5}{12} \qquad \text{upravil KRÁTIT}$$

$$-\frac{x}{3} = \frac{5}{12} \quad / \cdot 12$$

$$-4x = 5 \quad / : (-4)$$

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

$$\left[\text{pokud hned nás. 12} \right.$$
$$-\frac{2}{3} \cdot \frac{x}{2} = \frac{5}{12} \quad / \cdot 12$$
$$-12 \cdot \frac{2}{3} \cdot \frac{x}{2} = \frac{5}{12} \cdot 12 \qquad \text{KRÁTIT}$$
$$-\frac{12}{1} \cdot \frac{2}{3} \cdot \frac{x}{2} = 5$$
$$-4x = 5$$
$$\left. x = -\frac{5}{4} \right]$$

POZOR! CHYBNĚ!
$$-\frac{2}{3} \cdot \frac{x}{2} = \frac{5}{12} \quad / \cdot 12$$
$$\left[-\frac{12 \cdot 2}{3} \cdot \frac{12x}{2} = 5 \right]$$
$$-8 \cdot 6x = 5$$

b)

$$2 \cdot \frac{5x}{6_3} - \frac{1}{3} = x - \frac{1}{2} \qquad \text{upravit KRÁTIT}$$

$$\frac{5x}{3} - \frac{1}{3} = x - \frac{1}{2} \qquad | \cdot 6$$

$$2 \cdot 5x - 2 = 6x - 3$$

$$10x - 2 = 6x - 3 \qquad | -6x + 2$$

$$10x - 6x = -3 + 2$$

$$4x = -1 \qquad | : 4$$

$$x = -\frac{1}{4}$$

$$\left[\text{nebo pokud nekrátíme} \right.$$

$$\frac{2}{1} \cdot \frac{5x}{6} - \frac{1}{3} = x - \frac{1}{2}$$

$$\frac{10x}{6} - \frac{1}{3} = x - \frac{1}{2} \qquad | \cdot 6$$

$$\left. 10x - 2 = 6x - 3 \quad \text{atd.} \right]$$

c)

$$4x + 1 = 4 \cdot (4x + 0{,}25)$$

$$4x + 1 = 16x + 4 \cdot 0{,}25$$

$$4x + 1 = 16x + 1 \qquad | -4x - 1$$

$$0 = 12x \qquad | : 12$$

$$x = 0 \qquad \left[\frac{0}{12} = 0 \right]$$

d)

$$x = 2{,}5 \cdot x \qquad | -x$$

$$0 = 2{,}5 \cdot x - x$$

$$0 = 2{,}5x - 1x$$

$$0 = 1{,}5x \qquad | : 1{,}5 \quad \left[\frac{0}{1{,}5} = 0 \; ! \right]$$

$$0 = x$$

$$x = 0$$

e)

$$5 \cdot 0{,}4 - 3x : 2 = 0{,}5x + 7 \qquad \frac{\cdot 0{,}4}{20}^{5} \qquad 3x : 2 = \frac{3x}{2} = \frac{3}{2} \cdot x = 1{,}5x$$

$$2 - 1{,}5x = 0{,}5x + 7 \qquad | \cdot 10$$

$$20 - 15x = 5x + 70 \qquad | -5x - 20$$

$$-15x - 5x = 70 - 20$$

$$-20x = 50 \qquad | : (-1)$$

$$20x = -50 \qquad | : 20 \qquad x = -\frac{50}{20} = -\frac{5}{2} = (-2{,}5)$$

f)

$$5 \cdot (0{,}2x + 1) = (8 - 6x) : 2$$

$$1x + 5 = 4 - 3x \qquad | + 3x - 5$$

$$4x = -1 \qquad | : 4$$

$$x = -\frac{1}{4}$$

$$\left[\frac{8 - 6x}{2} = \frac{2(4 - 3x)}{2} = 4 - 3x \right]$$

$$\text{nebo} \quad 1x + 5 = \frac{8 - 6x}{2} \qquad | \cdot 2$$

$$2x + 10 = 8 - 6x \qquad | + 6x - 10$$

$$8x = -2 \qquad | : 8$$

$$x = -\frac{2}{8} \qquad \text{KRÁTIT}$$

$$x = -\frac{1}{4}$$

③ **Řešte rovnici (v záznamovém archu** uveďte **celý postup řešení**, zkoušku nezapisujte):

a)
$$\frac{2-x}{2} - 3 = \frac{2x+1}{3} \qquad /\cdot 6$$

$$3(2-x) - 18 = 2(2x+1)$$
$$6 - 3x - 18 = 4x + 2$$
$$-3x - 12 = 4x + 2 \qquad /-4x+12$$
$$-7x = 14 \qquad /:(-7)$$
$$x = -2$$

nebo
$$-3x - 12 = 4x + 2 \qquad /+3x-2$$
$$-14 = 7x \qquad /:7$$
$$-2 = x$$
$$x = -2$$

b)
$$\frac{1-x}{2} = 4 - x + \frac{5x}{3} \qquad /\cdot 6$$

$$3(1-x) = 24 - 6x + 10x$$
$$3 - 3x = 24 + 4x \qquad /-4x-3$$
$$-7x = 24 - 3$$
$$-7x = 21 \qquad /:(-7)$$
$$x = -3$$

$$3 - 3x = 24 + 4x \qquad /+3x-24$$
$$-21 = 7x \qquad /:7$$
$$-3 = x$$
$$x = -3$$

c)
$$\frac{x-5}{2} + x = \frac{2x}{3} - \frac{5}{6} \qquad /\cdot 6$$

$$3(x-5) + 6x = 2 \cdot 2x - 5$$
$$3x - 15 + 6x = 4x - 5$$
$$9x - 15 = 4x - 5 \qquad /-4x+15$$
$$9x - 4x = -5 + 15$$
$$5x = 10 \qquad /:5$$
$$x = 2$$

lze i
$$\frac{x-5}{2} + x = \frac{2x}{3} - \frac{5}{6}$$
$$\frac{x-5+2x}{2} = \frac{4x-5}{6}$$
$$\frac{3x-5}{2} = \frac{4x-5}{6} \qquad /\cdot 6$$
$$3(3x-5) = 4x-5$$
$$9x - 15 = 4x - 5$$
(dále viz 1. zp.)

d)
$$\frac{x-2}{2} - x = 2 - \frac{2x}{3} \qquad /\cdot 6$$

$$3(x-2) - 6x = 12 - 2 \cdot 2x$$
$$3x - 6 - 6x = 12 - 4x$$
$$-6 - 3x = 12 - 4x \qquad /+4x+6$$
$$4x - 3x = 12 + 6$$
$$x = 18$$

e)
$$y - \frac{1-3y}{2} = \frac{7}{4} + \frac{5y}{3} \qquad /\cdot 12$$

$$12y - 6(1-3y) = 3 \cdot 7 + 4 \cdot 5y$$
$$12y - 6 + 18y = 21 + 20y$$
$$30y - 6 = 21 + 20y \qquad /-20y+6$$
$$30y - 20y = 21 + 6$$
$$10y = 27 \qquad /:10$$
$$y = \frac{27}{10} \quad (= 2{,}7)$$

lze i
$$\frac{2y - (1-3y)}{2} = \frac{21 + 20y}{12}$$
zlomková čára nahrazuje závorky
– MUSÍTE JE NAPSAT
$$\frac{2y - 1 + 3y}{2} = \frac{21 + 20y}{12}$$
$$\frac{5y - 1}{2} = \frac{21 + 20y}{12} \qquad /\cdot 12$$
$$6(5y-1) = 21 + 20y$$
$$30y - 6 = 21 + 20y \quad \text{atd.}$$

f)

$$\frac{3-2y}{3} = \frac{1-2y}{4} + \frac{y+3}{6} \qquad /.12$$

$$4(3-2y) = 3(1-2y) + 2(y+3)$$
$$12 - 8y = 3 - 6y + 2y + 6$$
$$12 - 8y = 9 - 4y \qquad /+8y$$
$$12 = 9 + 4y \qquad /-9$$
$$3 = 4y$$
$$4y = 3 \qquad /:4$$
$$y = \frac{3}{4}$$

nebo

$$12 - 8y = 9 - 4y \qquad /+4y$$
$$12 - 4y = 9 \qquad /-12$$
$$-4y = -3 \qquad /:(-4)$$
$$y = \frac{-3}{-4}$$
$$y = \frac{3}{4}$$

nebo

$$-4y = -3 \qquad /.(-1)$$
$$4y = 3 \qquad /:4$$
$$y = \frac{3}{4}$$

g)

$$\frac{y-5}{2} + \frac{3-y}{6} = 1 - \frac{2y}{3} \qquad /.6$$

$$3(y-5) + 3 - y = 6 - 4y$$
$$3y - 15 + 3 - y = 6 - 4y$$
$$2y - 12 = 6 - 4y \qquad /+4y+12$$
$$6y = 18 \qquad /:6$$
$$y = 3$$

h)

$$y - \frac{2-5y}{10} = \frac{5y-8}{15} - 2 \qquad /.30$$

$$30y - 3(2-5y) = 2(5y-8) - 60$$
$$30y - 6 + 15y = 10y - 16 - 60$$
$$45y - 6 = 10y - 76 \qquad /-10y+6$$
$$35y = -70 \qquad /:35$$
$$y = \frac{-70}{35}$$
$$y = -\frac{2}{1} = -2$$

ch)

$$\frac{y-4}{5} - \frac{y}{10} = \frac{3+y}{2} - 2 \qquad /.10$$

$$2(y-4) - y = 5(3+y) - 20$$
$$2y - 8 - y = 15 + 5y - 20$$
$$y - 8 = 5y - 5 \qquad /-5y+8$$
$$y - 5y = -5 + 8$$
$$-4y = 3 \qquad /:(-4)$$
$$y = -\frac{3}{4} \quad (-0{,}75)$$

nebo

$$y - 8 = 5y - 5 \qquad /-y+5$$
$$-8 + 5 = 5y - y$$
$$-3 = 4y$$
$$4y = -3 \qquad /:4$$
$$y = -\frac{3}{4}$$

i)

$$\frac{3-2y}{3} = \frac{1-2y}{4} + \frac{y+3}{6} \quad /.12$$

$$4(3-2y) = 3(1-2y) + 2(y+3)$$
$$12 - 8y = 3 - 6y + 2y + 6$$
$$12 - 8y = 9 - 4y \quad /+8y$$
$$12 = 9 + 4y \quad /-9$$
$$3 = 4y$$
$$4y = 3 \quad /:4$$
$$y = \frac{3}{4}$$

$$\begin{bmatrix} \text{nebo} \\ 12 - 8y = 9 - 4y \quad /+4y \\ 12 - 4y = 9 \quad /-12 \\ -4y = -3 \quad /:(-4) \\ y = \frac{-3}{-4} \\ y = \frac{3}{4} \end{bmatrix}$$

$$\begin{matrix} \text{nebo} \\ -4y = -3 \quad /.(-1) \\ 4y = 3 \quad /:4 \\ y = \frac{3}{4} \end{matrix}$$

④ **Řešte rovnici (v záznamovém archu** uveďte **celý postup řešení**, zkoušku nezapisujte):

a)

$$(1-x)\cdot\frac{5}{6} = \frac{10}{9}x - \frac{1}{3}$$

$$\left[\text{upravil si na zlomky lépe} \right]$$
$$\left[\frac{(1-x)}{1}\cdot\frac{5}{6} = \frac{10}{9}\cdot\frac{x}{1} - \frac{1}{3} \right]$$

$$\frac{(1-x)\cdot 5}{6} = \frac{10\cdot x}{9} - \frac{1}{3} \quad /.18$$

$$\begin{bmatrix} \text{NEBO} \quad \frac{5-5x}{6} = \frac{10x}{9} - \frac{1}{3} \quad /.18 \\ 3(5-5x) = 20x - 6 \\ 15 - 15x = 20x - 6 \text{ atd.} \end{bmatrix}$$

$$3\cdot 5(1-x) = 2\cdot 10x - 6$$
$$15(1-x) = 20x - 6$$
$$15 - 15x = 20x - 6 \quad /+15x+6$$
$$21 = 35x$$
$$35x = 21 \quad /:35$$
$$x = \frac{21^3}{35_5}$$
$$x = \frac{3}{5}$$

$$15 - 15x = 20x - 6 \quad /-20x-15$$
$$-35x = -21 \quad /.(-1)$$
$$35x = 21 \quad /:35$$
$$x = \frac{21}{35}$$
$$x = \frac{3}{5}$$

b)

$$\frac{6+5x}{6} - \frac{1}{3} = \frac{10}{9}x + 1 \quad /.18 \qquad \left[\frac{10}{9}\cdot x = \frac{10}{9}\cdot\frac{x}{1} = \frac{10\cdot x}{9} \right]$$

$$3(6+5x) - 6 = 20x + 18$$
$$18 + 15x - 6 = 20x + 18$$
$$15x + 12 = 20x + 18 \quad /-15x-18$$
$$12 - 18 = 20x - 15x$$
$$-6 = 5x$$
$$5x = -6 \quad /:5$$
$$x = -\frac{6}{5}$$

$$\begin{matrix} \text{nebo} \\ 15x + 12 = 20x + 18 \quad /-20x-12 \\ 15x - 20x = 18 - 12 \\ -5x = 6 \quad /:(-5) \\ x = -\frac{6}{5} \end{matrix}$$

c)

$$6x - 2 = 4\cdot\left(x - \frac{1}{2}\right) + 2x \qquad \left[4\cdot\frac{1}{2} = \frac{4}{1}\cdot\frac{1}{2} = \frac{2\cdot 1}{1\cdot 1} = 2 \right]$$

$$6x - 2 = 4x - 2 + 2x$$
$$6x - 2 = 6x - 2 \quad /-6x+2$$
$$0x = 0 \quad \text{PLATÍ}$$
$$\text{NEKONEČNĚ MNOHO}$$
$$\text{ŘEŠENÍ}$$

d) $\dfrac{3-y}{3} + \dfrac{3}{5} \cdot (y+1) + \dfrac{y}{3} = y$ upravit

$$\dfrac{3-y}{3} + \dfrac{3(y+1)}{5} + \dfrac{y}{3} = y \quad |.15$$

$$5(3-y) + 9(y+1) + 5y = 15y$$

$$15 - 5y + 9y + 9 + 5y = 15y$$

$$9y + 24 = 15y \quad |-9y$$

$$24 = 6y \quad |:6$$

$$4 = y$$

$$y = 4$$

POZOR!

$$\left[\; \dfrac{3-y}{3} + \dfrac{3}{5} \cdot (y+1) + \dfrac{y}{3} = y \quad |.15 \atop 5(3-y) + 9 \cdot \boxed{15}(y+1) + 5y = 15y \;\right]$$
NE

nebo $\left[\; 9y + 24 = 15y \quad |-15y-24 \atop \begin{array}{c} -6y = -24 \;\; |.(-1) \\ 6y = 24 \;\; |:6 \\ \underline{y = 4} \end{array} \;\right]$

e) $\dfrac{5}{6} \cdot (y-2) - \dfrac{2}{3} \cdot y = \dfrac{y}{2} - \dfrac{5}{4}$ upravit nejprve

$$\dfrac{5(y-2)}{6} - \dfrac{2y}{3} = \dfrac{y}{2} - \dfrac{5}{4} \quad |.12$$

$$2 \cdot 5(y-2) - 4 \cdot 2y = 6y - 3 \cdot 5$$

$$10(y-2) - 8y = 6y - 15$$

$$10y - 20 - 8y = 6y - 15$$

$$2y - 20 = 6y - 15 \quad |-2y+15$$

$$-5 = 4y \quad |:4$$

$$-\dfrac{5}{4} = y$$

$$y = -\dfrac{5}{4}$$

$\left[\; \dfrac{5}{6} \cdot (y-2) = \dfrac{5}{6} \cdot \dfrac{(y-2)}{1} = \dfrac{5(y-2)}{6} \atop \dfrac{2}{3} \cdot y = \dfrac{2}{3} \cdot \dfrac{y}{1} = \dfrac{2y}{3} \;\right]$

POZOR!

pokud hned násobíu 12, NESMÍTE násobit ještě navíc
$(y-2)$ a y u $\frac{2}{3}$
CHYBNĚ!

$$\dfrac{5}{6}(y-2) - \dfrac{2}{3} \cdot y = \dfrac{y}{2} - \dfrac{5}{4} \quad |.12$$

$$10(\underline{12y}-24) - 8 \cdot \underline{12y} = 6y - 15$$
CHYBNĚ   CHYBNĚ

f) $\dfrac{2}{3} \cdot (x+1) = -\dfrac{1}{3} \cdot (2x-1) - 1$ upravit

$$\left[\; \dfrac{2}{3} \cdot \dfrac{(x+1)}{1} = -\dfrac{1}{3} \cdot \dfrac{2x-1}{1} - 1 \;\right]$$

$$\dfrac{2(x+1)}{3} = -\dfrac{1(2x-1)}{3} - 1 \quad |.3$$

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

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

$$2x + 1 = -2x - 2 \quad |+2x-1$$

$$4x = -3 \quad |:4$$

$$x = -\dfrac{3}{4}$$

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

$$6x - 3 = -(x+3)$$

$$6x - 3 = -x - 3 \quad |+x+3$$

$$7x = 0 \quad |:7$$

$$x = 0$$

h) $\frac{5}{3} \cdot (y-1) + \frac{5}{6} \cdot (11-2y) - \frac{3}{4} \cdot y = 0$ *upravil*

$$\frac{5(y-1)}{3} + \frac{5(11-2y)}{6} - \frac{3y}{4} = 0 \qquad /.12$$

$$4 \cdot 5(y-1) + 2 \cdot 5(11-2y) - 3 \cdot 3y = 0$$

$$20(y-1) + 10(11-2y) - 9y = 0$$

$$20y - 20 + 110 - 20y - 9y = 0$$

$$-9y + 90 = 0 \quad /-90$$

$$-9y = -90 \quad /.(-1)$$

$$9y = 90 \quad /:9$$

$$y = \frac{90}{9}$$

$$\underline{y = 10}$$

⑤ **Řešte rovnici (v záznamovém archu** uveďte **celý postup řešení**, zkoušku nezapisujte):

a) $\frac{y+1}{6} - \frac{3y}{2} = 2 + \frac{0,5-y}{3} \qquad /.6$

$2 \cdot 95 = 1,0$

$$y + 1 - 3 \cdot 3y = 12 + 2(0,5-y)$$

$$y + 1 - 9y = 12 + 1 - 2y \quad /-1$$

$$-8y = 12 - 2y \quad /+2y$$

$$-6y = 12 \quad /:(-6)$$

$$\underline{y = -2}$$

b) $2,5 \cdot (2-3x) = \frac{5x+10}{2}$

$$5 - 7,5x = \frac{5x+10}{2} \quad \text{dále nei}$$
$$\qquad\qquad\qquad \text{xpůsobů}$$

$$5 - 7,5x = \frac{1}{2}(5x+10)$$

$$5 - 7,5x = 0,5(5x+10) \quad /.10$$

$$50 - 75x = 5(5x+10)$$

$$50 - 75x = 25x + 50 \quad /-25x-50$$

$$-100x = 0 \quad /.(-1)$$

$$100x = 0 \quad /:100$$

$$\left(x = \frac{0}{100}\right)$$

$$\underline{x = 0}$$

nebo $\left[2,5 = \frac{25}{10} = \frac{5}{2} \right]$

$\left[\begin{array}{l} \frac{5}{2}(2-3x) = \frac{5x+10}{2} \\[4pt] \frac{5(2-3x)}{2} = \frac{5x+10}{2} \quad /.2 \\[4pt] 5(2-3x) = 5x+10 \\[4pt] 10 - 15x = 5x+10 \quad /+15x-10 \\[4pt] 10-10 = 20x \\[4pt] 20x = 0 \quad /:20 \\[4pt] \underline{x = 0} \end{array} \right]$

c) $0,4 \cdot 0,1x + 0,32 : 0,1 = 0,2x$

$$0,04x + 3,2 = 0,2x \quad /.100$$

$$4x + 320 = 20x \quad /-4x$$

$$320 = 16x$$

$$16x = 320 \quad /:16$$

$$x = \frac{320}{16} \qquad 320 : 16 = 20$$

$$\underline{x = 20}$$

$\left[\begin{array}{l} 0,32 : 0,1 \quad /.10 \quad \text{nebo} \quad \frac{0,32}{0,10} = \frac{32}{10} = 3,2 \\[4pt] 3,2 : 1 = 3,2 \end{array} \right]$

nebo $\left[\begin{array}{l} 4x + 320 = 20x \\[4pt] 4x - 20x = -320 \\[4pt] -16x = -320 \quad /.(-1) \\[4pt] 16x = 320 \quad \text{atd.} \end{array} \right]$

d)

$$2 \cdot (3 - 0.75x) + x = 7 - \frac{x}{2}$$

upravil $\frac{x}{2} = \left[\frac{1 \cdot x}{2} = \frac{1}{2} \cdot \frac{x}{1}\right] = \frac{1}{2}x = 0.5x$

NEBO $\quad 2(3 - 0.75x) + x = 7 - \frac{x}{2}$

$$6 - 1.5x + x = 7 - 0.5x$$
$$6 - 0.5x = 7 - 0.5x \quad | +0.5x - 6$$
$$0x = 1$$
$$0 = 1 \quad \text{NEPLATÍ}$$

rovnice NEMÁ ŘEŠENÍ

e)

$$\frac{5x - 2}{4} = 1.25x - \frac{1}{2}$$

upravil

$1.25x = \frac{5}{4}x \left[= \frac{5}{4} \cdot \frac{x}{1}\right] = \frac{5x}{4}$

$\left[1.25 = 1 + 0.25 = 1 + \frac{25}{100} = 1 + \frac{1}{4} = \frac{4+1}{4} = \frac{5}{4}\right]$

$$\frac{5x-2}{4} = \frac{5x}{4} - \frac{1}{2} \quad |.4$$
$$5x - 2 = 5x - 2 \quad | -5x + 2$$
$$0 = 0$$
$$(0x = 0) \quad \text{platí}$$

$\left[\text{KDYBY} \quad 5x - 2 = 5x - 3 \quad |-5x + 2\right.$
$0 = -1 \quad \text{neplatí}$
$\left.(0x = -1) \quad \text{NEMÁ ŘEŠENÍ}\right]$

! NEKONEČNĚ MNOHO ŘEŠENÍ (řešením každé reálné číslo)

f)

$$2.5 \cdot (2x - 0.4) + x = 2.5x + 0.4$$

$\begin{array}{r} 2.5 \\ \cdot 0.4 \\ \hline 100 \end{array}$

$$5x - 1 + x = 2.5x + 0.4$$
$$6x - 1 = 2.5x + 0.4 \quad |.10$$
$$60x - 10 = 25x + 4 \quad | -25x + 10$$
$$35x = 14 \quad |:35$$
$$x = \frac{14}{35}$$
$$x = \frac{2}{5} \ (= 0.4)$$

g)

$$0.6x - \frac{1}{2} = 1.4x + 1.5 \quad |.10$$

$$6x - \overset{5}{\cancel{10}} \cdot \frac{1}{\cancel{2}} = 14x + 15$$
$$6x - 5 = 14x + 15 \quad | -6x$$
$$-5 = 8x + 15 \quad | -15$$
$$-20 = 8x$$
$$8x = -20 \quad |:8$$
$$x = -\frac{20}{8} \quad \text{krátit}$$
$$x = -\frac{5}{4}$$

$\left[\text{nebo}\right.$
$0.6x - 0.5 = 1.4x + 1.5 \quad |.10$
$\left.6x - 5 = 14x + 15\right]$

$\left[\text{nebo}\right.$
$6x - 5 = 14x + 15 \quad | -14x + 5$
$6x - 14x = 15 + 5$
$-8x = 20 \quad |:8$
$x = -\frac{20}{8} \quad \text{krátit}$
$\left.x = -\frac{5}{4}\right]$