

$$3 \cdot [x - 2(x+5)] = 2(x+5) + 5$$

①

$$3 \cdot [x - 2x - 10] = 2x + 10 + 5$$

$$3 \cdot [-x - 10] = 2x + 15$$

$$-3x - 30 = 2x + 15 \quad | -2x$$

$$-5x - 30 = 15 \quad | +30$$

$$-5x = 45 \quad | : (-5)$$

$$\underline{\underline{x = -9;}}$$

Sk

$$L = 3 \cdot [x - 2 \cdot (x+5)] =$$

$$= 3 \cdot [-9 - 2 \cdot (-9+5)] =$$

$$= 3 \cdot [-9 - 2 \cdot (-4)] = 3 \cdot [-9 + 8] =$$

$$= 3 \cdot (-1) = \underline{\underline{-3}}$$

$$P = 2(x+5) + 5 = 2 \cdot (-9+5) + 5 =$$

$$= 2 \cdot (-4) + 5 = -8 + 5 = \underline{\underline{-3}}$$

$$L = P$$

$$5x - [2x - 3(x - 2)] = 3x + 12$$

$$5x - [2x - 3x + 6] = 3x + 12$$

$$5x - [-x + 6] = 3x + 12$$

$$5x + x - 6 = 3x + 12$$

$$6x - 6 = 3x + 12 \quad | -3x$$

$$3x - 6 = 12 \quad | +6$$

$$3x = 18 \quad | :3$$

sk

$$\underline{\underline{x = 6}}$$

$$\begin{aligned}
 \check{L} &= 5x - [2x - 3(x - 2)] = \\
 &= 5 \cdot 6 - [2 \cdot 6 - 3 \cdot (6 - 2)] = \\
 &= 30 - [12 - 3 \cdot (4)] = \\
 &= 30 - [12 - 12] = \underline{\underline{30}};
 \end{aligned}$$

$$\begin{aligned}
 P &= 3x + 12 = 3 \cdot 6 + 12 = \\
 &= 18 + 12 = 30
 \end{aligned}$$

$$\check{L} = P$$

$$8x - [2x - 3(x+2)] + 4(x+1) = 36 \quad (3)$$

$$8x - [2x - 3x - 6] + 4x + 4 = 36$$

$$8x - (-x - 6) + 4x + 4 = 36$$

$$8x + x + 6 + 4x + 4 = 36$$

$$13x + 10 = 36 \quad | -10$$

$$13x = 26 \quad | :13$$

$$\underline{\underline{x = 2}}$$

$$\begin{aligned} C &= / \\ &= 8x - [2x - 3(x+2)] + 4(x+1) = \\ &= 8 \cdot 2 - [2 \cdot 2 - 3(2+2)] + 4 \cdot (2+1) = \\ &= 16 - [4 - 3 \cdot 4] + 4 \cdot 3 = \\ &= 16 - [4 - 12] + 12 = 16 - [-8] + 12 = \\ &= 16 + 8 + 12 = 36 \end{aligned}$$

$$P = 36$$

$$\underline{\underline{C = P}}$$

$$11x - [5x + 5(2x - 3) + 10] = 5 - 4x$$

$$11x - [5x + 10x - 15 + 10] = 5 - 4x$$

$$11x - [15x - 5] = 5 - 4x$$

$$11x - 15x + 5 = 5 - 4x$$

$$-4x + 5 = 5 - 4x \quad | +4x$$

$$\underline{\underline{5 = 5}}$$

ÚLOHA MÁ NEKONECNÉ VEĽKÉ RIŠENÍ

$$9x + 3[x - 2(x - 3) - 5] = 4(2x - 5) + 13 - 2x$$

$$9x + 3[x - 2x + 6 - 5] = 8x - 20 + 13 - 2x$$

$$9x + 3(-x + 1) = 6x - 7$$

$$9x - 3x + 3 = 6x - 7$$

$$6x + 3 = 6x - 7 \quad | -3$$

$$6x = 6x - 10 \quad | -6x$$

$$\underline{\underline{0 = -10}}$$

ÚLOHA NEMÁ RIŠENIE

$$4(4x+3) - 3(2x+6) = 2(3x-9) + 2x-4 \quad (5)$$

$$16x+12 - 6x - 18 = 6x-18 + 2x-4$$

$$10x - 6 = 8x - 22 \quad | -8x$$

$$2x - 6 = -22 \quad | +6$$

$$2x = -16 \quad | :2$$

$$x = -8$$

$$\underline{\underline{x = -8}}$$

$$S_k \\ L = 4(4x+3) - 3(2x+6) =$$

$$= 4(4 \cdot (-8) + 3) - 3(2 \cdot (-8) + 6) =$$

$$= 4(-32 + 3) - 3(-16 + 6) =$$

$$= 4 \cdot (-29) - 3 \cdot (-10) = -116 + 30 = -86$$

$$P = 2(3x-9) + 2x-4 =$$

$$= 2(3 \cdot (-8) - 9) + 2 \cdot (-8) - 4 =$$

$$= 2(-24 - 9) - 16 - 4 =$$

$$= 2 \cdot (-33) - 20 = -66 - 20 = -86$$

$$\underline{\underline{L = P}}$$

$$11x - [5x + 5(2x - 3) + 10] = 5 - 4x \quad \textcircled{6}$$

$$11x - [5x + (10x - 15) + 10] = 5 - 4x$$

$$11x - [5x + 10x - 15 + 10] = 5 - 4x$$

$$11x - [15x - 5] = 5 - 4x$$

$$11x - 15x + 5 = 5 - 4x$$

$$-4x + 5 = 5 - 4x \quad | -5$$

$$-4x = -4x \quad | +4x$$

$$\underline{\underline{0 = 0}}$$

ÚLOHA MÁ NEKONEČNĚ VEĽA RIŠENÍ!

$$15x + 4(3 - 5x) = 2[4x - 3(x - 6) - 12] - 7x$$

$$15x + 12 - 20x = 2[4x - 3x + 18 - 12] - 7x$$

$$-5x + 12 = 2[x + 6] - 7x$$

$$-5x + 12 = 2x + 12 - 7x$$

$$-5x + 12 = -5x + 12 \quad | -12$$

$$-5x = -5x \quad | +5x$$

$$\underline{\underline{0 = 0}}$$

ÚLOHA MÁ NEKONEČNĚ VEĽA RIŠENÍ!

$$2 \cdot [5x + 2(x-3) + 1] + 5 = 3 \cdot [2x - (x+5)] - 12 \quad (7)$$

$$2 \cdot [5x + 2x - 6 + 1] + 5 = 3 \cdot [2x - x - 5] - 12$$

$$2(7x - 5) + 5 = 3(x - 5) - 12$$

$$14x - 10 + 5 = 3x - 15 - 12$$

$$14x - 5 = 3x - 27 \quad | +27$$

$$14x + 22 = 3x \quad | -14x$$

$$22 = -11x \quad | :(-11)$$

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

Sk

$$L = 2 \cdot [5x + 2(x-3) + 1] + 5 =$$

$$= 2 \cdot [5(-2) + 2((-2)-3) + 1] + 5 =$$

$$= 2 \cdot [-10 + 2(-5) + 1] + 5 =$$

$$= 2 \cdot (-10 - 10 + 1) + 5 =$$

$$= 2 \cdot (-19) + 5 = -38 + 5 = -33 \quad \checkmark$$

$$P = 3 \cdot [2x - (x+5)] - 12 = 3 \cdot [2 \cdot (-2) - (-2+5)] - 12 =$$

$$= 3 \cdot [-4 - (+3)] - 12 = 3 \cdot [-7] - 12 =$$

$$= -21 - 12 = \underline{\underline{-33}} \quad \checkmark$$

$$\underline{\underline{L = P}}$$

$$5(x-6) - 2[3x - (5x+12) + 10] = 8(2x-5) \quad (8)$$

$$5x - 30 - 2[3x - 5x - 12 + 10] = 16x - 40$$

$$5x - 30 - 2[-2x - 2] = 16x - 40$$

$$5x - 30 + 4x + 4 = 16x - 40$$

$$9x - 26 = 16x - 40 \quad | +26$$

$$9x = 16x + 14 \quad | -16x$$

$$-7x = -14 \quad | :(-7)$$

$$\underline{\underline{x=2}}$$

Sk.

$$\begin{aligned} L &= 5(x-6) - 2[3x - (5x+12) + 10] = \\ &= 5 \cdot (2-6) - 2[3 \cdot 2 - (5 \cdot 2 + 12) + 10] = \\ &= 5 \cdot (-4) - 2[6 - (10+12) + 10] = \\ &= -20 - 2[16 - 22] = -20 - 2 \cdot (-6) = \\ &= -20 + 12 = -8 \end{aligned}$$

$$\begin{aligned} P &= 8(2x-5) = 8 \cdot (2 \cdot 2 - 5) = 8 \cdot (4-5) = \\ &= 8 \cdot (-1) = -8 \end{aligned}$$

$$\underline{\underline{L=P}}$$



$$12x - 2[3(x+1) - 2(x-1)] = 2(x+3) \quad (a)$$

$$12x - 2[3x + 3 - 2x + 2] = 2x + 6$$

$$12x - 2[x + 5] = 2x + 6$$

$$12x - 2x - 10 = 2x + 6$$

$$10x - 10 = 2x + 6 \quad | -2x$$

$$8x - 10 = 6 \quad | +10$$

$$8x = 16 \quad | :8$$

$$\underline{\underline{x = 2}};$$

SK.

$$C = 12x - 2[3(x+1) - 2(x-1)] =$$

$$= 12 \cdot 2 - 2[3(2+1) - 2(2-1)] =$$

$$= 24 - 2[3 \cdot 3 - 2 \cdot 1] =$$

$$= 24 - 2[9 - 2] = 24 - 2 \cdot 7 =$$

$$= 24 - 14 = 10$$

$$P = 2(x+3) = 2(2+3) = 2 \cdot 5 = 10$$

$$C = P$$

$$\begin{aligned}
 2 \cdot \{10 - [2 - x(2x+3) + 8x]\} &= 12 + 4[x^2 - 4(x-2)] - 4 \\
 2 \{10 - [2 - 2x^2 - 3x + 8x]\} &= 12 + 4[x^2 - 4x + 8] - 4 \\
 2 \cdot \{10 - [2 - 2x^2 + 5x]\} &= 12 + 4x^2 - 16x + 32 - 4 \\
 2 \cdot \{10 - 2 + 2x^2 - 5x\} &= 12 + 4x^2 - 16x + 28 \\
 2[8 + 2x^2 - 5x] &= 40 + 4x^2 - 16x \\
 16 + 4x^2 - 10x &= 40 + 4x^2 - 16x \quad | -4x^2 \\
 16 - 10x &= 40 - 16x \quad | +16x \\
 16 + 6x &= 40 \quad | -16 \\
 6x &= 24 \quad | :6 \\
 x &= 4
 \end{aligned}$$

Sk

$$\begin{aligned}
 L &= 2 \cdot \{10 - [2 - x(2x+3) + 8x]\} = \\
 &= 2 \cdot \{10 - [2 - 4(2 \cdot 4 + 3) + 8 \cdot 4]\} = \\
 &= 2 \cdot \{10 - [2 - 4(8+3) + 32]\} = \\
 &= 2 \cdot \{10 - [2 - 44 + 32]\} = \\
 &= 2 \cdot \{10 - [-10]\} = 2 \cdot (10 + 10) = \underline{40} \quad \checkmark
 \end{aligned}$$

$$\begin{aligned}
 P &= 12 + 4[x^2 - 4(x-2)] - 4 = \\
 &= 12 + 4[4^2 - 4(4-2)] - 4 = \\
 &= 12 + 4[16 - 4 \cdot 2] - 4 = 12 + 4[16 - 8] - 4 = \\
 &= 12 + 4 \cdot 8 - 4 = 12 + 32 - 4 = 44 - 4 = 40 \quad \checkmark
 \end{aligned}$$

$$L = P$$

$$4[2x + 5(3 - 2x) - 12] = 5(x - 1) + 3(x + 1) + 18 \quad (11)$$

$$4[2x + 15 - 10x - 12] = 5x - 5 + 3x + 3 + 18$$

$$4[-8x + 3] = 8x + 16$$

$$-32x + 12 = 8x + 16 \quad | -8x$$

$$-40x + 12 = 16 \quad | -12$$

$$-40x = 4 \quad | : (-40)$$

$$x = -\frac{1}{10}$$

                    

SK

$$L = 4[2x + 5(3 - 2x) - 12] =$$

$$= 4 \cdot [2 \cdot (-\frac{1}{10}) + 5 \cdot (3 - 2 \cdot (-\frac{1}{10})) - 12] =$$

$$= 4 \cdot [-\frac{2}{10} + 5(3 + \frac{2}{10}) - 12] =$$

$$= 4 \cdot [-\frac{1}{5} + 5 \cdot 3\frac{1}{5} - 12] =$$

$$= 4 \cdot [-\frac{1}{5} + 5 \cdot \frac{16}{5} - 12] = 4 \cdot [-\frac{1}{5} + \frac{80}{5} - \frac{60}{5}] =$$

$$= 4 \cdot [\frac{19}{5}] = \frac{76}{5} = 15\frac{1}{5}$$

$$P = 5(x - 1) + 3(x + 1) + 18 =$$

$$= 5(-\frac{1}{10} - \frac{10}{10}) + 3(-\frac{1}{10} + \frac{10}{10}) + 18 =$$

$$= 5 \cdot -\frac{11}{10} + 3 \cdot \frac{9}{10} + 18 = -\frac{55}{10} + \frac{27}{10} + 18 =$$

$$= -\frac{28}{10} + 18 = -\frac{14}{5} + 18 = -2\frac{4}{5} + 18 = 15\frac{1}{5}$$

$$L = P$$

$$3x + x(2+2x) + 10 = 5(x^2+2) - 3(x^2-1) \quad (12)$$

$$3x + 2x + 2x^2 + 10 = 5x^2 + 10 - 3x^2 + 3$$

$$2x^2 + 5x + 10 = 2x^2 + 13 \quad | -2x^2$$

$$5x + 10 = 13 \quad | -10$$

$$5x = 3 \quad | :5$$

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

Sk

$$\bar{C} = 3x + x(2+2x) + 10 =$$

$$= 3 \cdot \frac{3}{5} + \frac{3}{5} \left( 2 + 2 \cdot \frac{3}{5} \right) + 10 =$$

$$= \frac{9}{5} + \frac{3}{5} \left( 2 + \frac{6}{5} \right) + 10 =$$

$$= \frac{9}{5} + \frac{3}{5} \cdot \frac{16}{5} + 10 = \frac{90}{50} + \frac{48}{25} + 10 =$$

$$= \frac{90}{50} + \frac{96}{50} + 10 = \frac{186}{50} + 10 = 2 \frac{36}{50} + 10 =$$

$$= 12 \frac{36}{50} = 12 \frac{18}{25}$$

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

$$= 5 \cdot \left( \left( \frac{3}{5} \right)^2 + 2 \right) - 3 \cdot \left( \left( \frac{3}{5} \right)^2 - 1 \right) =$$

$$= 5 \left( \frac{9}{25} + \frac{50}{25} \right) - 3 \left( \frac{9}{25} - \frac{25}{25} \right) = 5 \cdot \frac{59}{25} - 3 \cdot \left( -\frac{16}{25} \right) =$$

$$= \frac{295}{25} + \frac{48}{25} = \left( \frac{247}{25} \right) \quad \frac{343}{25} = 13 \frac{18}{25}$$

$$\bar{C} = P$$