Löse die Gleichung:

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

$$3{,}5 - x - 0{,}8 - 0{,}4x = 0{,}2x + 0{,}2 + 0{,}5 \qquad \text{/ Zusammenfassen}$$

$2{,}7 - 1{,}4x$	$= 0{,}2x + 0{,}7$	/ + 1,4x
$2{,}7$	$= 1{,}6x + 0{,}7$	/ - 0,7
2	$= 1{,}6x$	/ : 1,6
$\underline{1{,}25}$	$= \quad x$	

$$\frac{2 - 7x}{12} - \frac{7 - 8{,}5x}{30} = \frac{2(1 - 1{,}5x)}{5} - \frac{1}{3}\left(x - \frac{1}{2}\right)$$

$$\frac{2 - 7x}{12} - \frac{7 - 8{,}5x}{30} = \frac{2 - 3x}{5} - \frac{x}{3} + \frac{1}{6} \qquad \text{/ Hauptnenner} \cdot 60$$

$$\frac{60(2 - 7x)}{12} - \frac{60(7 - 8{,}5x)}{30} = \frac{60(2 - 3x)}{5} - \frac{60x}{3} + \frac{60}{6}$$

$5(2 - 7x) - 2(7 - 8{,}5x)$	$= 12(2 - 3x) - 20x + 10$	
$10 - 35x - 14 + 17x$	$= 24 - 36x - 20x + 10$	
$- 4 - 18x$	$= 34 - 56x$	/ + 56x
$- 4 + 38x$	$= 38$	/ + 4
$38x$	$= 38$	/ : 38
$\underline{\qquad x \qquad}$	$= \quad 1$	

$$1,5 - 3 \cdot (3x - 2\frac{7}{12}) = \frac{2}{3} \cdot (4\frac{1}{8}x - 3,5) - \frac{x}{6} \qquad \text{(QS = 1)}$$

$$1,5 - 3 \cdot (3x - \frac{31}{12}) = \frac{2}{3} \cdot (\frac{33}{8}x - 3,5) - \frac{x}{6}$$

$$1,5 - 9x + \frac{31}{4} = \frac{33}{12}x - \frac{7}{3} - \frac{x}{6} \qquad \text{/ Hauptnenner} \cdot 12$$

18 – 108x + 93   = 33x – 28 – 2x

111 – 108x   = 31x – 28   / + 108x

139   = 139x – 28   / + 28

139   = 139x   / : 133

  1   =   x

$$\frac{3}{4} \cdot (3x - 8) - \frac{x}{8} + 0,625 = 1 - \frac{2x - 6}{5}$$

$$\frac{9}{4}x - 6 - \frac{x}{8} + 0,625 = 1 - \frac{2x - 6}{5} \qquad \text{/ Hauptnenner} \cdot 40$$

90x – 240 – 5x + 25   = 40 – 8(2x – 6)

   85x – 215   = 40 – 16x + 48   / + 16x

  101x – 215   = 88   / + 215

  101x   = 303   / : 101

      x   = 3

$$\frac{2}{3}(8x-17)-2(x+8)=\frac{2x-74}{6}-3$$

$$\frac{16}{3}x-\frac{34}{3}-2x-16=\frac{2x-74}{6}-3 \qquad\qquad \text{/ Hauptnenner} \cdot 6$$

32x - 68 - 12x - 96	= 2x - 74 - 18	
20x - 164	= 2x - 92	/ - 2x
18x - 164	= - 92	/ + 164
18x	= 72	/ : 18
x	= 4	

$$\frac{2-x}{3}-\frac{1}{2}(x+12)=\frac{5x}{6}-7 \qquad\qquad (\text{QS} = 1)$$

$$\frac{2-x}{3}-\frac{1}{2}x-6=\frac{5x}{6}-7 \qquad\qquad \text{/ Hauptnenner} \cdot 6$$

$$\frac{6(2-x)}{3}-3x-36=5x-42$$

4 - 2x - 3x - 36	= 5x - 42	
- 32 - 5x	= 5x - 42	/ + 5x
- 32	= 10x - 42	/ + 42
10	= 10x	/ : 10
1	= x	

$$\frac{2x-3}{2} + 3{,}5 = 1\frac{1}{3}(2x+3) - x - \frac{x+6}{2}$$

$$\frac{2x-3}{2} + 3{,}5 = \frac{4}{3}(2x+3) - x - \frac{x+6}{2}$$

$$\frac{2x-3}{2} + 3{,}5 = \frac{8}{3}x + 4 - x - \frac{x+6}{2} \qquad \text{/ Hauptnenner} \cdot 6$$

$$\frac{6(2x-3)}{2} + 3{,}5 \cdot 6 = \frac{8}{3}x \cdot 6 + 24 - 6x - \frac{6(x+6)}{2}$$

$$3(2x-3) \;+\; 21 \;=\; 16x \;+\; 24 - 6x - 3(x+6)$$

$$6x - 9 \;+\; 21 \;=\; 16x + 24 - 6x - 3x - 18$$

$$6x + 12 \;=\; 7x + 6 \qquad\qquad \text{/ - 6x}$$

$$12 \;=\; x + 6 \qquad\qquad \text{/ - 6}$$

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

$$\frac{9x + 0{,}5 \bullet (4 - 6x)}{2} = 7{,}5 - (x + 1{,}5) + 2x$$

$$\frac{9x + 2 - 3x}{2} = 7{,}5 - x - 1{,}5 + 2x$$

$$\frac{6x + 2}{2} = 6 + x \qquad\qquad \text{/ Hauptnenner} \cdot 2$$

$$6x + 2 = 12 + 2x \qquad\qquad \text{/ - 2x}$$

$$4x + 2 = 12 \qquad\qquad \text{/ - 2}$$

$$4x = 10 \qquad\qquad \text{/ : 4}$$

$$\underline{x = 2{,}5}$$

$$\frac{1}{6} - \frac{2}{3}\left(\frac{1}{4x} - \frac{1}{2x} - \frac{1}{x}\right) = 1$$

$$\frac{1}{6} - \frac{2}{12x} + \frac{2}{6x} + \frac{2}{3x} = 1 \qquad\qquad\text{/ Hauptnenner} \cdot 12x$$

2x − 2 + 4 + 8 = 12x   / - 2x

                10   = 10x   / : 10

                1   = x

$$7\left(3x + \frac{1}{2}\right) - 6\left(4x - \frac{1}{3}\right) - 5\left(5x + \frac{1}{4}\right) + 2\frac{3}{4} = 0$$

$$21x + 3{,}5 - 24x + 2 - 25x - 1{,}25 + 2{,}75 = 0$$

-28x + 7   = 0   / + 28x

        7   = 28x   / : 28

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

        0,25   = x