

Opgave 6.1

$$2(3-x) - 4(8+x) = 3(1-2x) - (1-2x)$$

$$6 - 2x - 32 - 4x = 3 - 6x - 1 + 2x$$

$$-26 - 6x = 2 - 4x$$

$$-28 = 2x$$

$$x = \frac{-28}{2} = -14$$

Controle

$$2(3 - (-14)) - 4(8 + (-14)) = 3((1 - (2 * (-14))) - ((1 - (2 * (-14))))$$

$$2(3 + 14) - 4 * -6 = 3(1 - (-28)) - (1 - (-28))$$

$$2 * 17 + 24 = 3 * 29 - 29$$

$$34 + 24 = 87 - 29$$

$$58 = 58$$

Opgave 6.2

$$8(x-2) - 3(x+4) = \frac{5}{2}(2x+6)$$

$$8x - 16 - 3x - 12 = 5x + 15$$

$$5x - 28 = 5x + 15$$

$$5x - 5x = 43$$

$$0 \neq 43$$

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Opgave 6.3

$$\frac{2x}{5} + 4 = 1 + \frac{x}{4}$$

$$\frac{80x}{5} + 160 = 40 + \frac{40x}{4}$$

$$16x + 160 = 40 + 10x$$

$$6x = -120$$

$$x = \frac{-120}{6}$$

$$x = -20$$

Opgave 6.4

$$\frac{13x-1}{7} = \frac{3x+1}{3} + \frac{6x-3}{7}$$

$$21\left(\frac{13x-1}{7}\right) = 21\left(\frac{3x+1}{3} + \frac{6x-3}{7}\right)$$

$$\frac{273x-21}{7} = \frac{63x+21}{3} + \frac{126x-63}{7}$$

$$39x-3 = 21x+7+18x-9$$

$$39x-39x = 1$$

$$0 \neq 1$$

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Opgave 6.5

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

$$6 - \frac{6x+12}{3} = 12x - \frac{6x+18}{2}$$

$$6 - 2x - 4 = 12x - 3x - 9$$

$$2 - 2x = 9x - 9$$

$$-11x = -11$$

$$x = 1$$

Opgave 6.6

$$\frac{5x}{4} - \left(\frac{17}{4} - \frac{x}{2}\right) = x + 2\left(\frac{3x}{5} - 1\right)$$

$$\frac{25x}{20} - \left(\frac{85}{20} - \frac{10x}{20}\right) = \frac{20x}{20} + \frac{24x}{20} - \frac{40}{20}$$

$$\frac{25x-85+10x}{20} = \frac{20x+24x-40}{20}$$

$$25x-85+10x = 20x+24x-40$$

$$35x-85 = 44x-40$$

$$-9x = 45$$

$$x = \frac{45}{-9}$$

$$x = -5$$

Opgave 6.7

$$3 = \frac{2x}{5-x}$$

$$3(5-x) = 2x$$

$$15 - 3x = 2x$$

$$15 = 5x$$

$$x = \frac{15}{5}$$

$$x = 3$$

Opgave 6.8

$$7 = \frac{1+x}{3-x}$$

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

$$21 - 7x = 1+x$$

$$20 = 8x$$

$$x = \frac{20}{8} = \frac{10}{4} = \frac{5}{2}$$