

$$8 = 5 - (4 - x)$$

$$8 = 5 - 4 + x$$

$$x) 2x - 3(4x - 6) = 10 - 3[4(2x - 5) + 4x]$$

$$2x - 12x + 18 = 10 - 12(2x - 5) - 12x$$

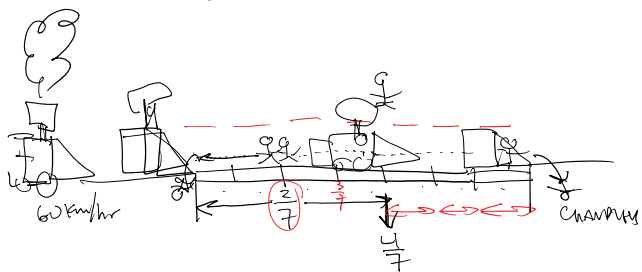
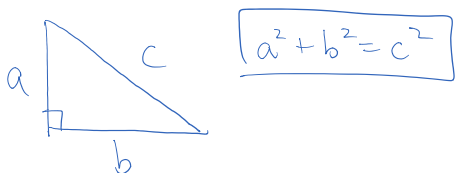
$$-10x + 18 = 10 - 24x + 60 - 12x$$

$$-10x + 18 = 70 - 36x$$

$$+36x - 18 \quad -18 \quad +36x$$

$$26x = 52$$

$$x = 2$$



TRAIN : STUDENT

$$\frac{7}{60 \text{ km/hr}} = ?$$

$$3 \left( \frac{60}{7} \right) = \left( \frac{?}{8} \right) 3$$

$$\frac{180}{7} = ?$$

$$? = 25 \frac{5}{7}$$

$$\begin{array}{r} 25 \\ 7 \overline{) 180} \\ \underline{14} \phantom{0} \\ 40 \\ \underline{35} \\ 5 \end{array}$$

$$\textcircled{a} \quad \textcircled{b} \quad ? = 25.714285$$

$$\frac{1}{7} = 0.142857$$

$$\frac{2}{7} = 0.285714$$

$$\frac{3}{7} = 428571$$

$$\frac{5}{7} = 0.714285$$

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Date: Nov. 24, 2015

Math 8/9 Honours Assignment 3.2 Solving Equations with Fractions and Distributive Property

1. Solve the following equations for "x"

a)  $x - \frac{1}{2} = -\frac{13}{2}$

$$2x - 1 = -13$$

$$2x = -12$$

$$x = -6$$

c)  $(-4.25) + x = 3$

$$4.25 + x = 3$$

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

e)  $-\frac{7}{4}x + \frac{1}{2} = -\frac{9}{10}$

$$-35x + 10 = -18$$

$$-35x = -28$$

$$x = \frac{28}{35} = \frac{4}{5}$$

g)  $-18 = \frac{-2}{5}(15x - 45)$

$$-90 = -2(15x - 45)$$

$$-90 = -30x + 90$$

$$30x = 180$$

$$x = 6$$

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

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

$$20 = 3(3x + 2) - 8x$$

$$20 = 9x + 6 - 8x$$

$$14 = x$$

$$x = 14$$

l)  $4(x + 6) + 2(5 - x) - 2[3 - (a - 2)] = 4$

$$4(x + 6) + 2(5 - x) - 2(3 - a + 2) = 4$$

$$4x + 24 + 10 - 2x - 10 + 2a = 4$$

$$2x + 2a + 24 = 4$$

$$2x + 2x = -20 \quad x = -5$$

$$4x = -20$$

l)  $20 - 4x + 3 = 5x - 8 + 2x$

$$20 - 4x + 3 = 7x - 8$$

$$-4x + 23 = 7x - 8$$

$$-11x = -31$$

$$x = \frac{31}{11}$$

n)  $18 - (2x - 5) - 2(x + 2) = 3x + 5$

$$18 - 2x + 5 - 2x - 4 = 3x + 5$$

$$-4x + 19 = 3x + 5$$

$$-7x = -14$$

$$x = 2$$

p)  $\frac{1}{6}(12x - 42) = -\frac{3}{4}(4 - 16x)$

$$2x - 7 = -3 + 12x$$

$$-10x = 4$$

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

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

$$2(5x - 1) = 9x + 3$$

$$10x - 2 = 9x + 3$$

$$x = 5$$

b)  $-4\frac{1}{3} = x + (-\frac{1}{3})$

$$-\frac{13}{3} = x + (-\frac{1}{3}) \quad 3x = -12$$

$$-13 = 3x - 1 \quad x = -4$$

$$-12 = 3x$$

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

$$x - 6 = 4$$

$$x = 10$$

f)  $-27 = 6\left(x + \frac{1}{2}\right)$

$$-27 = 6x + 3$$

$$-30 = 6x$$

$$6x = -30$$

$$x = -5$$

h)  $\frac{-5(2 - x)}{3} = 90$

$$-5(2 - x) = 270$$

$$-10 + 5x = 270$$

$$5x = 280$$

$$x = 56$$

j)  $10\left(\frac{1}{2}x - 2\right) - \frac{2}{5}(30 - 5x) = -11$

$$5x - 20 - 12 + 2x = -11$$

$$7x - 32 = -11$$

$$7x = 21$$

$$x = 3$$

k)  $7x - 6 = x - 5 + 4x$

$$7x - 6 = 5x - 5$$

$$2x = 1$$

$$x = \frac{1}{2}$$

m)  $3(x + 6) + 2x - 6 = 8x - 2(2x - 4)$

$$3x + 18 + 2x - 6 = 8x - 4x + 8$$

$$5x + 12 = 4x + 8$$

$$x = -4$$

o)  $\frac{1}{3}(3 + 9x) = \frac{2}{4}(28 - 12x)$

$$\frac{3 + 9x}{3} = \frac{7(28 - 12x)}{4}$$

$$4(3 + 9x) = 21(28 - 12x)$$

$$12 + 36x = 588 - 252x$$

$$-576 = -298x \quad x = 2$$

$$-288x = -576$$

q)  $24 + \frac{1}{6}x = \frac{1}{3}x$

$$432 + 3x = 6x$$

$$3x = 432$$

$$x = 144$$

s)  $\frac{1}{2}x - 6 = \frac{3x}{10} + \frac{x}{8}$

$$20x - 240 = 12x + 5x$$

$$20x - 240 = 17x$$

$$3x = 240$$

$$x = 80$$

$\frac{5}{7} = 0,714285$

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

$$2(5x-1) = 9x+3$$

$$10x-2 = 9x+3$$

$$x = 5$$

$$s) \frac{1}{2}x - 6 = \frac{3x}{10} + \frac{x}{8}$$

$$20x - 240 = 12x + 5x$$

$$20x - 240 = 17x$$

$$3x = 240$$

$$x = 80$$

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

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

$$18-12x = 5x+20$$

$$-17x = 2$$

$$x = -\frac{2}{17}$$

$$u) 8 + \frac{2}{5}(3x-1) = -2 + \frac{1}{2}(20-3x)$$

$$8 + \frac{2(3x-1)}{5} = -2 + \frac{20-3x}{2}$$

$$80 + 4(3x-1) = -20 + 5(20-3x)$$

$$80 + 12x - 4 = -20 + 100 - 15x$$

$$12x + 76 = 80 - 15x$$

$$27x = 4 \quad x = \frac{4}{27}$$

$$v) x+4 = 4[2(8x-7)+5x] - 3x$$

$$x+4 = 4(16x-14+5x) - 3x$$

$$x+4 = 84x - 56 - 3x$$

$$x+4 = 81x - 56$$

$$-80x = -60$$

$$x = \frac{3}{4}$$

$$w) -0.4(0.5x-0.4) = 1.3-0.6(0.3-0.2x)$$

$$-4(0.5x-0.4) = 130-6(0.3-0.2x)$$

$$-20x + 16 = 130 - 18 + 12x$$

$$-32x = 96$$

$$x = -3$$

$$x) 2x-3(4x-6) = 10-3[4(2x-5)+4x]$$

$$2x-12x+18 = 10-3(8x-20+4x)$$

$$-10x+18 = 10-24x+60-12x$$

$$-10x+18 = -36x+70$$

$$26x = 52$$

$$x = 2$$

$$y) 7x+2(3x-5) = 6[5+2(2x-5+2x)]$$

$$7x+6x-10 = 6(5+4x-10+4x)$$

$$13x-10 = 6(8x-5)$$

$$13x-10 = 48x-30$$

$$-35x = -20$$

$$x = \frac{20}{35} = \frac{4}{7}$$

$$z) 8+2[3x-2(x-8x+5)] = 3(7x+3)-3x$$

$$8+2(3x-2x+16x-10) = 21x+9-3x$$

$$8+2(17x-10) = 18x+9$$

$$8+34x-20 = 18x+9$$

$$-12+34x = 18x+9$$

$$16x = 21$$

$$x = \frac{21}{16}$$

$$zz) 2-[3x+2(20x-4+24x+1)] = 6(2x-3)-3x$$

$$2-(3x+40x-8+48x+2) = 12x-18-3x$$

$$2-(91x-6) = 9x-18$$

$$2-91x+6 = 9x-18$$

$$-100x = -26$$

$$x = \frac{26}{100} = \frac{13}{50}$$