MPM 1DI: *Solving Equations with Decimals & Fractions*

1. Solve the following equations:

a) $0.6x+1.3x=3.04$ **b)** $-0.5x-3.69=x-4.29$ **c)** $-2.7x+0.4=2.8-1.2x$

d) $0.68=0.4(x+1.4)$ **e)** $2.1(2.3+2.1x)=11.65+x$

2. Solve the following equations:

a) $\frac{x+1}{2}=3$ **b)** $\frac{x-1}{5}=-3$ **c)** $\frac{2x+1}{3}=5$

d) $\frac{x}{2}-\frac{x}{3}=3$ **e)** $\frac{2x}{5}+2=\frac{1}{2}$ **f)** $\frac{3x}{4}-\frac{2x}{3}=6$

g) $\frac{3x}{5}-6=\frac{x}{3}$ **h)** $-4x=x+\frac{5}{2}$ **i)** $\frac{2x+3}{3}=x+2$

3. Solve the following:

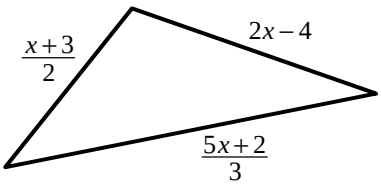
a) $\frac{x+3}{4}=\frac{x+5}{6}$ **b)** $\frac{x+2}{3}=\frac{2x+3}{5}$ **c)** $\frac{2x+4}{5}-\frac{7x-6}{15}=2$

d) $\frac{5x-4}{3}-2x-\frac{3}{4}=-5$ **e)** $2x+\frac{4-5x}{3}=\frac{3}{5}-\frac{x}{2}$ **f)** $\frac{-11x}{3}+4x-\frac{7}{4}=\frac{11}{12}$

g) $7(3r+11)+4r+\frac{5}{2}=\frac{21}{2}$ **h)** $\frac{3}{5}(10+15x)+7=-\frac{2}{3}(12-24x)$ **i)** $7+\frac{1}{3}(4x-5)=\frac{4}{7}(4x+1)$

4. Show a formal check of your solution for question **2(b)** and **2 (c)**.

5. A triangle with sides of length $\frac{x+3}{2}$, $2x-4$ and $\frac{5x+2}{3}$ has a perimeter of 19 m. What is the length of each side of the triangle?



SOLUTIONS

1. **a)** 1.6 **b)** 0.4 **c)** −1.6 **d)** 0.3 **e)** 2

2. **a)** 5 **b)** −14 **c)** 7 **d)** 18 **e)** $-\frac{15}{4}$ **f)** 72

g) $\frac{45}{2}$ **h)** $-\frac{1}{2}$ **i)** −3

3. **a)** 1 **b)** 1 **c)** −12 **d)** $\frac{35}{4}$ **e)** $\frac{-22}{25}$ **f)** 8

g) $-\frac{69}{25}$ **h)** 3 **i)** 5

5. The lengths are 4 m, 6 m, and 9 m.