4.3 – Solve Equations Involving Fractions Worksheet #1

MPM1D

1. Solve

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

b) $4=\frac{-2}{3}(p-2)$

c) $\frac{m+4}{3}=7$

d) $-14=\frac{2(h-3)}{5}$

2. Solve

a) $\frac{y-4}{5}=-6$

b) $\frac{1}{4}(u-5)=-2$

c) $3=\frac{2}{5}(n+7)$

d) $16=\frac{3(v+7)}{2}$

3. Find the root of each equation

a) $\frac{m-3}{4} = \frac{m+1}{3}$

b) $\frac{w-1}{4} = \frac{w+2}{3}$

c) $\frac{1}{4}(x-3) = \frac{1}{3}(x-2)$

d) $\frac{1}{5}(y-3) = \frac{1}{6}(y+4)$

4. Find the root of each equation.

a) $\frac{2}{3}(5n-1) = -\frac{3}{5}(n+2)$

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

c) $\frac{3c-2}{5} = \frac{2c-1}{3}$

d) $\frac{5-2a}{4} = \frac{6-a}{5}$

5. Each of the following solutions contains an error. Identify the error and describe how to correct it.

a)

$$\frac{x-3}{5} = \frac{x+1}{4}$$
$$5(x-3) = 4(x+1)$$
$$5x - 15 = 4x + 4$$
$$5x - 15 - 4x + 15 = 4x + 4 - 4x + 15$$
$$x = 19$$

b)

$$\frac{1}{3}(3y-2) = \frac{1}{4}(y+3)$$
$$12 \times \frac{1}{3}(3y-2) = 12 \times \frac{1}{4}(y+3)$$
$$3y - 2 = y + 3$$
$$3y - 2 - y + 2 = y + 3 - y + 2$$
$$2y = 5$$
$$\frac{2y}{2} = \frac{5}{2}$$
$$y = \frac{5}{2}$$

6. Find the height of a triangle with base 10 cm and area 50 cm^2.

7. Solve

a) $\frac{3p}{4} + \frac{p-5}{3} = \frac{1}{2}$

b) $\frac{u-3}{4} - 2 = \frac{3u}{2} + \frac{2u+1}{5}$