U3D3_T - Solving Equations with Fractions I

Monday, March 5, 2018 1:39 PM

U3D5_T - Solving Eq...

U3D5 Unit 3 - Equations

Day 5 - Solving Equations with Fractions Part 1

Warm Up:

a) $\frac{x}{2000} = \frac{16}{100}$

$\frac{x}{2000} \times 2000 = \frac{16}{100} \times \frac{2000}{1}$

$x = 320$

b) $\frac{15}{100} = \frac{18}{x}$

$\frac{100}{15} = \frac{x}{18}$

$\frac{x}{18} = \frac{100}{15}$

$\frac{x}{18} \times 18 = \frac{100}{15} \times 18$

$x = 100 \div 15 \times 18$

In calculator (or cross reduce $\frac{100}{15} \times \frac{18}{1}$).

$x = 120$

Example 1: Solve the following:

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

$\frac{-14}{1} = \frac{2h-6}{5}$

$2h-6 = -14(5)$

$2h-6 = -70$

$2h-6+6 = -70+6$

$2h = -64$

$\frac{2h}{2} = \frac{-64}{2}$

$h = -32$

Step 1: If $\frac{\square}{\square} = \frac{\square}{\square}$ then CROSS MULTIPLY

Step 2: Isolate the Variable term

Step 3: Isolate the variable

b) $15 = \dfrac{3(v+7)}{2}$

$\dfrac{15}{1} \times \dfrac{3v+21}{2}$

$3v + 21 = 30$

$3v + 21 - 21 = 30 - 21$

$\dfrac{3v}{3} = \dfrac{9}{3}$

$v = 3$

LS	RS
15	$\dfrac{3(3+7)}{2}$
	$= \dfrac{3(10)}{2}$
	$= \dfrac{30}{2}$
	$= 15$

c) $\frac{-8}{5} = \frac{-4(x-1)}{7}$

$\frac{-8}{5} \neq \frac{-4x+4}{7}$

$-20x + 20 = -56$

$-20x + 20 - 20 = -56 - 20$

$\frac{-20x}{-20} = \frac{-76}{-20}$

$x = \frac{76}{20}$

$x = \frac{19}{5}$

Example 2: Solve and check.

$$\frac{5}{3}(8-2x)=10x$$

$$\frac{40-10x}{3}=\frac{10x}{1}$$

$$30x=40-10x$$

$$30x+10x=40-10x+10x$$

$$\frac{40x}{40}=\frac{40}{40}$$

$$x=1$$

Left Side	Right Side
$\frac{5}{3}(8-2(1))$	$10(1)$
$=\frac{5}{3}\cdot\frac{(6)}{1}$	$=10$
$=\frac{30}{3}$	
$=10$	

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U3D5 Practice: Pg. 208-209 #1, 3ac, 4ac, 5 - 8