Tough Proportions

Name: Key

7th Grade Math

Use the same process as the proportion we did before. You will have to distribute now.

Example:

1. $\frac{-x+3}{2} = \frac{4}{-2}$

$-2(-x+3) = 2 \cdot 4$

$2x + -6 = 8$

$2x = 14$

$x = 7$ ✓

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

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

$2x+6 = 5x + -15$

$21 = 3x$

$x = 7$ ✓

Now you try....

1. $\frac{-4}{2} = \frac{-10}{x-1}$

$-4(x-1) = 2 \cdot -10$

$-4x+4 = -20$

$-4x = -24$

$x = 6$

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

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

$-2x + 10 = 3x + 15$

$-5 = 5x$

$x = -1$

3. $\frac{x+1}{3} = \frac{x-5}{3}$

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

$3x+3 = 3x + -15$

$3 \neq -15$ No Solution

4. $\frac{3x-3}{x+6} = \frac{-2}{-3}$

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

$-9x + 9 = -2x + -12$

$21 = 7x$

$x = 3$

5. $\frac{x-4}{5x+3} = \frac{5}{10}$

$10(x-4) = 5(5x+3)$

$10x + -40 = 25x + 15$

$-40 = 15x + 15$

$-55 = 15x$

$x = -\frac{11}{3} = -3\frac{2}{3} = -3.\overline{6}$

6. $\frac{x-7}{2x+3} = \frac{5}{9}$

$9(x+-7) = 5(2x+3)$

$9x + -63 = 10x + 15$

$-63 = x + 15$

$x = -78$