

November 17, 2015

#22)  $\frac{v-2}{3v^4-15v^3-18v^2} + \frac{3v}{1}$

$3v^2(v^2-5v-6)$

LCD  $\rightarrow 3v^2(v-6)(v+1)$

$\frac{v-2 + 3v(3v^2(v-6)(v+1))}{3v^2(v-6)(v+1)}$

$\frac{v-2 + 9v^3(v-6)(v+1)}{3v^2(v-6)(v+1)}$

Nov 17-9:01 AM

Solving Equations that Contain Fractions

$\frac{3}{4} + \frac{1}{x} = 8$

Steps

1 Find the LCD =  $4x$

2 Use LCD to clear the denominators by distributing the LCD through the entire equation.

$4x \left( \frac{3}{4} + \frac{1}{x} \right) = 4x \cdot 8$

$\left[ \frac{3x}{1} + \frac{4x}{x} \right] = \left[ \frac{4x}{1} \cdot 8 \right]$

$3x + 4 = 32x$  *new equation without fractions*

$\frac{4}{29} = x$

OR

$\frac{3}{4} + \frac{1}{x} = 8$

$\frac{3}{4} + \left[ \frac{4}{4} \right] = 8$

$\frac{3}{4} + \frac{3}{4} = 8$

$\frac{6}{4} = 8$

$\frac{3}{2} = 8$

$3 = 16$

Nov 17-9:10 AM

$6 + \frac{2}{3x} = 10$  LCD:  $3x$

$3x \left( 6 + \frac{2}{3x} = 10 \right)$

$3x \cdot 6 + 3x \cdot \frac{2}{3x} = 3x \cdot 10$

$18x + 2 = 30x$

OR

$2 = 12x$

$\frac{2}{12} = x$

$\frac{1}{6} = x$

$6 + \frac{2}{\frac{2}{1} \cdot \frac{1}{6}} = 10$

$6 + \frac{2}{\frac{2}{6}} = 10$

$6 + \frac{2}{\frac{2}{3}} = 10$

$6 + 4 = 10$

$10 = 10 \checkmark$

Nov 17-9:22 AM

#3)  $\frac{1}{3x^2} = \frac{x+3}{2x^2} - \frac{1}{6x^2}$  LCD:  $6x^2$

$\left[ \frac{6x^2}{1} \cdot \frac{1}{3x^2} \right] = \left[ \frac{6x^2}{1} \cdot \frac{(x+3)}{2x^2} \right] - \left[ \frac{6x^2}{1} \cdot \frac{1}{6x^2} \right]$

$2 = 3x + 9 - 1$

$2 = 3x + 8$

$\frac{-6}{3} = \frac{3x}{3}$

$-2 = x$

Nov 17-9:31 AM

$x = -2$

$\frac{1}{3(-2)^3} = \frac{1}{2(-2)^2} - \frac{1}{6(-2)^2}$

$\frac{1}{3(4)} = \frac{(-2)+3}{2(4)} - \frac{1}{6(4)}$

$\frac{1}{12} = \frac{1}{8} - \frac{1}{24}$

$= \frac{3-1}{24}$

$= \frac{2}{24}$

$\frac{1}{12} = \frac{1}{12} \checkmark$

Nov 17-9:41 AM

#8)  $\frac{1}{2m} + \frac{1}{4m^2} = \frac{1}{4m}$  LCD:  $4m^2$

$\frac{4m^2}{1} \cdot \frac{1}{2m} + \frac{4m^2}{1} \cdot \frac{1}{4m^2} = \frac{4m^2}{1} \cdot \frac{1}{4m}$

$2m + 1 = m$

$m = -1$

Nov 17-9:44 AM