4.6 - Solving Rational Equations

LT24: I can solve rational equations and inequalities.

A rational equation has one or more rational expressions. One way to solve a rational equation is to multiply each side of the equation by the LCD.

13) $2m \cdot \frac{1}{m} = \frac{m-34}{2m} \cdot 2m$

$2m = m - 34$

$-m \quad -m$

$m = -34$

Ex $\frac{x}{x+4} - \frac{2}{x-1} = \frac{20}{x^2+3x-4}$

$(x+4)(x-1)$

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$x(x-1) - 2(x+4) = 20$

$x^2 - x - 2x - 8 = 20$

$-20 \quad -20$

$x^2 - 3x - 28 = 0$

$(x-7)(x+4) = 0$

$x = 7, -4$

-4 can't be a solution because (x+4) is in the denominator of the original problem.