Clearing Fractions

Section 2.7

We are going to solve the following rational equation by clearing fractions first. Then solve traditionally.

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

Consider the denominators specifically the LCD. X only here.

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

Multiply both sides by that LCD.

$$x^2+3=4x$$

Collect all the terms on the side where x^2 is positive.

$$x^2-4x+3=0$$

$$(x-3)(x-1)=0$$

Then solve traditionally by factoring or using the quadratic formula.

$$x=3,\quad x=1$$

2.7 Solving equations in one variable.

Solve the system of equations.

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

2. $x + \frac{1}{x-4} = 0$

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

4. $\frac{x-3}{x} + \frac{3}{x+2} + \frac{6}{x^2+2x} = 0$

Homework

Complete the asymptote/hole worksheet.

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