LESSON 11: Rational Equations
☐ Rational Equation
☐ To solve a rational equation
☐ Connecting the concepts: expressions versus equations

Use you understanding of fractions and the process of finding least common denominators to solve for \( x \). If no solution exists, state this.

1. \[ \frac{2}{3x} + \frac{1}{x} = 10 \]

2. \[ \frac{x-1}{6x} = \frac{4}{9} \]
3. \[\frac{2}{x+5} + \frac{1}{x-5} = \frac{16}{x^2-25}\]

4. \[\frac{1}{m-3} + 2 = \frac{1}{m-3}\]
5. \[ \frac{1}{3} - \frac{1}{x+2} = \frac{x+14}{3x^2-12} \]

6. \[ \frac{x^2}{x-3} = \frac{9}{x-3} \]
7. Let \( f(x) = x + \frac{6}{x} \). Find all values of \( a \) for which \( f(a) = 5 \).

8. Let \( g(x) = x - \frac{5}{x} \). Find all values of \( w \) for which \( g(w) = 24 \).