

# Algebra Workshop

Name: \_\_\_\_\_

## Worksheet 4

1. Evaluate:

(a)  $\frac{\frac{1}{6} - \frac{4}{9}}{10}$

(b)  $\frac{7}{\frac{2}{3} + \frac{3}{4}}$

2. Simplify by adding the fractions:

(a)  $\frac{x}{2} + \frac{x}{5}$

(b)  $\frac{3}{x} + \frac{1}{5x}$

3. Solve the following equations:

$$(a) \frac{x}{2} + \frac{x}{4} = 2$$

$$(b) \frac{x}{2} - \frac{x}{3} = 1$$

$$(c) \frac{x}{2} + x = 1$$

$$(d) \frac{x}{3} = 1 - \frac{x}{2}$$

$$(e) \frac{3x}{2} = \frac{x}{4} + 2$$

$$(f) \frac{1}{x} + \frac{2}{3x} = 1$$

$$(g) \frac{1}{2x} + \frac{5}{x} = 4$$

$$(h) \frac{1}{3x-2} = 5$$

4. Simplify by adding the fractions:

(a)  $\frac{1}{x} + \frac{1}{y}$

(b)  $\frac{2}{x} + \frac{1}{x^2}$

5. Simplify each of the following:

(a)  $\frac{x/y}{z}$

(b)  $\frac{x}{y/z}$

6. Simplify by combining the fractions:

(a)  $\frac{1}{x+2} + \frac{2}{x-3}$

(b)  $\frac{2}{3x-2} + \frac{5}{x+2}$

(c)  $\frac{3}{2x-1} - \frac{5}{3x+4}$