

4-4 COMPLEX FRACTIONS HOMEWORK

FLUENCY

1. Simplify each of the following numerical complex fractions.

$$(a) \frac{\frac{1}{4} + \frac{3}{20}}{\frac{1}{2}}$$

$$(b) \frac{\frac{5}{18} + \frac{1}{6}}{\frac{1}{3}}$$

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

2. Simplify each of the following complex fractions.

$$(a) \frac{\frac{1}{2} + \frac{1}{3x}}{\frac{3}{10} + \frac{1}{5x}}$$

$$(b) \frac{2 - \frac{1}{2x}}{1 + \frac{5}{x}}$$

$$(c) \frac{\frac{1}{8} - \frac{1}{2x}}{\frac{1}{12x} - \frac{1}{3x^2}}$$

3. Simplify each of the following complex fractions.

$$(a) \frac{\frac{5}{3x} - \frac{5}{x^2}}{\frac{1}{3} - \frac{1}{x^2}}$$

$$(b) \frac{\frac{x}{10} - \frac{1}{10} - \frac{2}{x}}{\frac{1}{2} - \frac{x}{10}}$$

$$(c) \frac{3 - \frac{3}{4x}}{2 - \frac{1}{8x^2}}$$



4. Simplify each of the following complex fractions.

$$(a) \frac{\frac{x}{x-4} + \frac{4}{x-10}}{\frac{5x+10}{x^2-14x+40}}$$

$$(b) \frac{\frac{3x+2}{x-1} - \frac{8}{x-4}}{\frac{2x^2-12x}{x^2-5x+4}}$$

5. Which of the following is equivalent to $\frac{\frac{1}{x-1} - \frac{1}{x}}{\frac{1}{x^2-x}}$?

(1) 1

(3) $\frac{x}{x-1}$

(2) $\frac{2}{x-1}$

(4) $x - x^2$

REASONING

6. Since one can multiply by the number 1 at any point in an expression, simplify the following complex fraction by simplifying the more minor complex fraction first, then continue

$$\frac{\frac{\frac{1}{2} - \frac{1}{x}}{1}}{\frac{1}{10x} - \frac{\frac{x-1}{2}}{\frac{1}{10x} - \frac{1}{5x^2}}}$$

