

# EXTRA PRACTICE — Exercises

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## Unit VI – Second Degree Relations and Higher - Algebraic Fractions Part A – Operations

### Lesson 5 – Complex Forms

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Simplify each of the following complex fractions.

$$1. \frac{\frac{1}{10} + \frac{3x}{5}}{\frac{x}{2} - \frac{1}{5}}$$

$$2. \frac{\frac{2}{x} - \frac{10}{x^2 + 7x}}{\frac{5}{x+7} + \frac{2}{3x}}$$

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

$$4. \frac{\frac{2}{x-3} - \frac{1}{x-5}}{\frac{ax-7a-x+7}{x^2-8x+15}}$$

$$5. \frac{\frac{3}{a} - \frac{9}{a^2+3a}}{\frac{4}{a+3} - \frac{1}{a}}$$

$$6. \frac{\frac{2}{15} - \frac{7x}{3}}{\frac{x}{3} + \frac{4}{5}}$$

$$7. \frac{\frac{1}{2} + \frac{1 + \frac{1}{x}}{2}}{\frac{1}{x} + \frac{1}{2}}$$

$$8. \frac{1 - 7x^{-1} - 18x^{-2}}{1 - 4x^{-2}}$$

$$9. \frac{\frac{10a}{a^2+6a+8}}{\frac{7}{a+4} + \frac{3}{a+2}}$$

$$10. \frac{\frac{3x}{x^2-3x-10} - \frac{2}{x+2}}{\frac{4}{3x-15} + \frac{2x}{x^2-3x-10}}$$

# EXTRA PRACTICE — Answer Key

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### Part A – Operations

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Simplify each of the following complex fractions.

1.  $\frac{1+6x}{5x-2}$

2.  $\frac{(2x+4)(2)}{17x+14}$  or  $\frac{4x+8}{17x+14}$

3.  $\frac{4x+2}{x+1}$  or  $\frac{2(2x+1)}{x+1}$

4.  $\frac{x-3}{(x-7)(a-1)}$

5.  $\frac{a}{a-1}$

6.  $\frac{2-35x}{5x+12}$

7.  $\frac{2x+1}{2+x}$

8.  $\frac{x-9}{x-2}$

9.  $\frac{5a}{5a+13}$

10.  $\frac{3(x+10)}{2(5x+4)}$