Simplify the following complex fractions using **both** methods. Reduce where possible.

<u>Method 1: LCD num. & LCD denom.</u>

Invert & Multiply

Method 2: Multiply by $\dfrac{\text{LCD}}{\text{LCD}}$ of all

1. $\dfrac{4 - \dfrac{1}{3}}{10}$

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2. $\dfrac{x + \dfrac{2}{x}}{\dfrac{1}{4}}$

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3. $\dfrac{a + b}{\dfrac{1}{a} + \dfrac{1}{b}}$

$\dfrac{a + b}{\dfrac{1}{a} + \dfrac{1}{b}}$

Simplify the following complex fractions. Use whichever method you prefer. Reduce where possible.

4. $\dfrac{2 - \dfrac{3}{x - 1}}{\dfrac{1}{x - 1} - \dfrac{x}{x + 1}}$

5. $\dfrac{2 - \dfrac{3}{4}}{\dfrac{1}{3} - \dfrac{2}{5}}$

6. $\dfrac{1 + \dfrac{3}{x-3}}{2 + x - \dfrac{8}{x+4}}$

7. $\dfrac{\sqrt{x} - \dfrac{3}{\sqrt{x}}}{x - 3}$

8. $\dfrac{1 + \dfrac{5}{8}}{2 + \dfrac{1}{2} - \dfrac{3}{4}}$

9. $\dfrac{\dfrac{3}{4a} - \dfrac{2}{a}}{\dfrac{1}{3} - \dfrac{2}{3a}}$

10. $\dfrac{3 + x}{\dfrac{1}{x} + \dfrac{1}{x^2}}$

<u>ANSWERS</u>

1. $\dfrac{11}{30}$

2. $\dfrac{4(x^2 + 2)}{x}$

3. ab

4. $\dfrac{(x+1)(2x-5)}{-x^2 + 2x + 1}$

5. $-\dfrac{75}{4}$

6. $\dfrac{x+4}{(x-3)(x+6)}$

7. $\dfrac{1}{\sqrt{x}} = \dfrac{\sqrt{x}}{x}$

8. $\dfrac{13}{14}$

9. $\dfrac{-15}{4(a-2)}$

10. $\dfrac{x^2(3+x)}{x+1}$

Homework: Section 0.7, p. 45: #35-47(odd)