To solve any equation with <u>**one**</u> or <u>**more**</u> fractions:

1. <u>Re-write:</u> Make the problem consistent.

         a. Convert any mixed number to an improper fraction.
         b. Make sure to move anything out of NO MAN'S LAND to the numerator.
         c. Distribute to eliminate the parenthesis.

2. <u>Brackets:</u> At this point, the entire problem should be <u>**ALL**</u> fractions.

         a. If not all fractions, make them fractions by putting them over a 1.
         b. Put brackets [ ] around the ENTIRE equation.

3. <u>LCM:</u> Find the Least Common Multiple of ALL denominators

         a. The LCM will <u>**NEVER**</u> be less than your largest denominator!!
         b. If you are lucky, it will be your largest denominator, but not always. If the largest denominator does not work, you must list the multiples (x1, x2, x3, x4….) of the largest denominator until you find one that works for all.

4. <u>Cross Cancel:</u> Distribute the <u>LCM</u> to <u>EVERY</u> fraction in the equation. (Show the work on side of paper)

$$\frac{}{1}$$

         a. The LCM should Cross Cancel with each of the denominators (ones not equal to 1) from your problem.

5. This will leave you with a <u>**New Equation**</u> with no more fractions.

6. Follow the necessary steps **(DCE)** to solve your new equation.

Example #1:

1. $\dfrac{2}{7}j - \dfrac{1}{7} = \dfrac{6}{14}$

Re-write & Brackets: $\left[\dfrac{2j}{7} - \dfrac{1}{7} = \dfrac{6}{14}\right]$ **LCM:**   14

New Equation: $4j - 2 = 6$

Use   **D** $+2 \quad +2$
      C $\dfrac{4j}{4} = \dfrac{8}{4}$
      E

to solve $J = 2$

Cross Cancel:

$$\overset{2}{\cancel{14}} \cdot \frac{2j}{\underset{1}{\cancel{7}}} = \frac{4j}{1}$$

$$\overset{2}{\cancel{14}} \cdot \frac{1}{\underset{1}{\cancel{7}}} = \frac{2}{1}$$

$$\overset{1}{\cancel{14}} \cdot \frac{6}{\underset{1}{\cancel{14}}} = \frac{6}{1}$$

Example #2:

2. $\dfrac{1}{3}y + \dfrac{3}{4} = \dfrac{5}{12}$

Re-write & Brackets: $\left[\dfrac{1y}{3} + \dfrac{3}{4} = \dfrac{5}{12}\right]$ **LCM:**   12

New Equation: $4y + 9 = 5$

Use   **D** $-9 \quad -9$
      C $\dfrac{4y}{4} = \dfrac{-4}{4}$
      E

to solve $y = -1$

Cross Cancel:

$$\overset{4}{\cancel{12}} \cdot \frac{1y}{\underset{1}{\cancel{3}}} = \frac{4y}{1}$$

$$\overset{3}{\cancel{12}} \cdot \frac{3}{\underset{1}{\cancel{4}}} = \frac{9}{1}$$

$$\overset{1}{\cancel{12}} \cdot \frac{5}{\underset{1}{\cancel{12}}} = \frac{5}{1}$$

Fractional Equation Notes

Name: Date: Period:

Use the template for all steps. Show all your work.

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

Re-write & LCM: ___
Brackets:
Cross Cancel:

New Equation:
Use D
     C
     E
to solve

2. $\dfrac{2}{5}a + \dfrac{1}{2}a = a - 2$

Re-write & LCM: ___
Brackets:
Cross Cancel:

New Equation:
Use D
     C
     E
to solve

3. $\dfrac{1}{4}y - \dfrac{1}{2}y = 4$

Re-write & LCM: ___
Brackets:
Cross Cancel:

New Equation:
Use D
     C
     E
to solve

4. $\dfrac{2}{3}a = \dfrac{3}{5}a + 4$

Re-write & LCM: ___
Brackets:
Cross Cancel:

New Equation:
Use D
     C
     E
to solve

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

Re-write & LCM: ___
Brackets:
Cross Cancel:

New Equation:
Use D
     C
     E
to solve

6. $-\dfrac{1}{3}a + \dfrac{3}{4}a = 10$

Re-write & LCM: ___
Brackets:
Cross Cancel:

New Equation:
Use D
     C
     E
to solve

Fractional Equation Notes

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

Re-write &
Brackets:

LCM: ___

Cross Cancel:

New Equation:
Use   D
        C
        E

to solve

8. $\dfrac{3}{5}x-15=\dfrac{6}{5}x+12$

Re-write &
Brackets:

LCM: ___

Cross Cancel:

New Equation:
Use   D
        C
        E

to solve

9. $\dfrac{1}{3}h-4(\dfrac{2}{3}h-3)=-\dfrac{2}{3}h-8$

Re-write &
Brackets:

LCM: ___

Cross Cancel:

New Equation:
Use   D
        C
        E

to solve

10. $\dfrac{1}{2}r+2(\dfrac{3}{4}r-3)=\dfrac{1}{2}r+6$

Re-write &
Brackets:

LCM: ___

Cross Cancel:

New Equation:
Use   D
        C
        E

to solve