Rational Expressions – Add/Subtract

<u>Algorithm</u>

1. find the common denominator by multiplying or reducing method
2. make equivalent fractions
3. add or subtract the numerators
4. simplify

If appropriate, remember to use

$$\frac{a}{b}+\frac{c}{d}=\frac{ad+bc}{bd}$$

1. $\dfrac{4}{x+1}+\dfrac{5}{x+3}$

2. $\dfrac{3}{x+5}+\dfrac{4}{x+2}$

3. $\dfrac{7}{x-1}+\dfrac{3}{x+4}$

4. $\dfrac{5}{x+y}-\dfrac{3}{x-y}$

5. $\dfrac{2x}{x-2y}+\dfrac{2y}{x+2y}$

6. $\dfrac{x}{x^2-y^2}+\dfrac{3}{x+y}-\dfrac{2}{x-y}$

7. $\dfrac{5}{x^2-y^2}+\dfrac{3}{x+y}+\dfrac{6x}{x-y}$

8. $\dfrac{3x-1}{10}+\dfrac{5-2x}{15}$

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

10. $\dfrac{4}{x^2+x-12}+\dfrac{7}{x^2-9}$

11. $\dfrac{1}{x-2}+\dfrac{x-1}{x^2+x-6}$

12. $\dfrac{5x}{x^2+x-6}+\dfrac{2x}{x^2+8x+15}$

13. $\dfrac{2x}{x^2+4x+3}+\dfrac{3}{x^2+8x+15}$

14. When do you multiply the denominators to find the LCD?

15. When do you use the reducing Method to find the LCD?

16. Describe the procedure to find the LCD using the Reducing Method.