Name *Key*   **Date** _____ **Period** _____

7.4 Adding & Subtracting Rational Expressions DAY ONE CYU

CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
LCD		1 – 3	
Domain restriction in interval notation	1 – 3		
Adding rational expressions		2	
Subtracting rational expressions		1, 3	

Add or subtract the following rational expressions. State your LCD, restrict your domain, and simplify your answer completely.

1. $\dfrac{5}{2x-12} - \dfrac{20}{x^2-4x-12}$

$2(x-6) \quad (x-6)(x+2)$

LCD: $2(x-6)(x+2)$

D: $(-\infty, -2) \cup (-2, 6) \cup (6, \infty)$

$$\boxed{\dfrac{5}{2(x+2)}}$$

2. $\dfrac{3}{x^2-5x+6} + \dfrac{2}{x^2-4}$

$(x-3)(x-2) \quad (x+2)(x-2)$

LCD: $(x-3)(x-2)(x+2)$

D: $(-\infty, -2) \cup (-2, 2) \cup (2, 3) \cup (3, \infty)$

$$\boxed{\dfrac{5x}{(x-3)(x-2)(x+2)}}$$

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

$(x-1)(x-1) \quad (x+2)(x-1)$ ✓

LCD: $(x-1)^2(x+2)$

D: $(-\infty, -2) \cup (-2, 1) \cup (1, \infty)$

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