Alg 2 Classwork after Quiz #2 Sec 9-5 Spring 2019 Name:

For each sum or difference of rational expressions below follow these steps:

a. Factor all denominators, if necessary.

b. Get least common denominator for all ratios.

c. Add or Subtract, simplifying only the numerators. Leave denominators in factored form.

Show your work and circle your answers.

Example: $\frac{10}{x^2+3x}+\frac{7}{x^2-x-12} \rightarrow \frac{10}{x(x+3)}+\frac{7}{(x+3)(x-4)} \rightarrow \frac{(x-4)}{(x-4)}\cdot\frac{10}{x(x+3)}+\frac{7}{(x+3)(x-4)}\cdot\frac{x}{x}$

$= \frac{10x-40}{x(x+3)(x-4)}+\frac{7x}{x(x+3)(x-4)} = \boxed{\frac{17x-40}{x(x+3)(x-4)}}$

1. $\frac{7}{x-5}+\frac{6}{x+2}$

2. $\frac{5x}{9x-63}-\frac{x}{x^2-7x}$

3. $\frac{4}{7x-14}+\frac{3x}{x^2-4}$

4. $\frac{7x}{x^2-x-2}-\frac{8}{x^2-5x+6}$

5. $\frac{5}{4x+8}-\frac{9}{3x-12}$

6. $\frac{4x}{x^2-8x+12}+\frac{x+3}{x^2-2x-24}$