FRACTIONAL ALGEBRA

Name: _____ ( ) Class: _____ Date: _____

SIMPLE ALGEBRAIC FUNCTIONS

Simplify the following expressions:

1. $\frac{r-2}{4}+\frac{r-3}{8}$

2. $\frac{x+1}{3}+\frac{3+x}{5}$

3. $\frac{2a+3}{3}-\frac{4a-3}{4}$

4. $\frac{3p}{2}-\frac{p-1}{4}$

5. $\frac{x}{3}-\frac{x+1}{4}$

6. $\frac{r-2}{3}-\frac{2r-3}{9}$

7. $\frac{3x-1}{4}-\frac{2x+1}{5}-1$

8. $\frac{3}{4h}-\frac{1}{2k}$

LINEAR ALGEBRAIC DENOMINATOR

Express the following as a single expression:

1. $\frac{2}{r-5} - \frac{2}{r}$

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

3. $\frac{1}{x-2} - \frac{2}{2-x}$

4. $\frac{5}{2y+3} - \frac{4}{3y-1}$

5. $\frac{4}{2x-3} - \frac{3}{4x-6}$

6. $\frac{7}{3y-2} + \frac{9}{6y-4}$

7. $\frac{4}{3r-2} - \frac{3}{r+5}$

8. $\frac{2x+1}{x-1} - \frac{x-3}{x-2}$

9. $\frac{3}{x+2} - \frac{5}{1-2x}$

10. $2 + \frac{3x-1}{2x+5}$

11. $1 - \frac{3m+1}{3}$

12. $3 + \frac{2t+1}{3t-5}$

QUADRATIC ALGEBRAIC DENOMINATOR

Express the following as a single expression:

1. $\frac{3}{x-1}-\frac{x+3}{(x-1)(x+2)}$

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

3. $\frac{1}{x-1}-\frac{x-3}{x^2-1}$

4. $\frac{a}{2a-2}-\frac{1}{1-a^2}$

5. $\frac{x-2}{4x^2-1}-\frac{3}{2x+1}$

6. $\frac{1}{x(x-2)}+\frac{1}{4-x^2}$

7. $\frac{2}{3x-4}-\frac{1}{9x^2-16}$

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

SOLVING FRACTIONAL ALGEBRA

Solve the following equation:

1. $\frac{x+1}{4} = \frac{7}{2}$

2. $\frac{2x+7}{3} - \frac{5x}{4} = 7$

3. $\frac{3}{2x} - 5 = \frac{2}{3x}$

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

5. $\frac{x-2}{7} - \frac{x+3}{9} = \frac{1}{11}$

6. $\frac{1}{x-1} = \frac{1}{2x+1} + \frac{1}{2x-3}$

7. $3 - \frac{3x-2}{x-1} = \frac{2}{x+4}$.

8. $\frac{2}{x+2} = \frac{1}{2x} + \frac{1}{6}$

9. $\frac{3x-1}{2x^2-3x-2} - 2 = \frac{1}{x-2}$

10. $\frac{4c^2-4c-3}{4c^2-1} = \frac{4}{3}$