Rationals Review P5/1.6 name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

AA2 hr: \_\_\_\_\_\_\_

**Simplify completely. (Include domain restrictions if necessary)**

1.) $ \frac{3y^{2}}{60y^{3}}$ 2.) $\frac{12 - 4x}{x - 3} $ 3.) $\frac{x^{2}-7xy +6y^{2}}{x^{2}+11xy+10y^{2}}$

**Multiply or divide. Simplify completely. Write any domain restrictions, if needed.**

4.) $\frac{4y-16}{5y+15}∙\frac{2y+6}{4-y}$ 5.) $\frac{x^{2}- 14x+ 49}{x^{2}-49}÷\frac{3x-21}{x+7}$

**Add or subtract. Simplify completely. Write any domain restrictions, if needed.**

6.) $-5+\frac{3}{x- 1}$ 7.) $\frac{2}{x^{2}- x-2}+\frac{10}{x^{2}+ 2x -8}$ 8.) $\frac{2x}{x-5}-\frac{5}{5-x}$

**Simplify completely. Write any domain restrictions, if needed.**

9.) $ \frac{ x- 4 }{ \frac{x}{4} - \frac{4}{x}}$ 10.) $\frac{\frac{x^{2}-1}{x}}{\frac{(x-1)^{2}}{x}}$

**Solve.**

11.) $\frac{4}{x}- \frac{5}{3}=\frac{x}{6}$ 12.) $\frac{4}{x+1}-\frac{3}{x+2}=1$

13.) $\frac{3x}{x+1}=\frac{12}{x^{2}- 1}+2 $14.) $\frac{12}{x+5}+\frac{5}{x}=\frac{20}{x}$