

SM3-A HW #4-2 (Add/subtract rational expressions) Date _____ Period _____

Simplify each expression.

1) $\frac{6a-2b}{30ab^3} + \frac{6a+3b}{30ab^3}$

2) $\frac{x+4y}{10yx^3} - \frac{x+6y}{10yx^3}$

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

4) $\frac{3x}{2x+5} - \frac{6}{2(x-2)}$

5) $\frac{3}{5n+6} + \frac{3}{n+3}$

6) $\frac{6x}{3x} - \frac{6x}{3x^2+18x}$

7) $\frac{2a}{a-3} - \frac{2}{a+5}$

8) $\frac{k+6}{15k+6} + \frac{5k}{3k}$

$$9) \frac{\frac{4}{25}}{\frac{25}{x-4}}$$

$$10) \frac{\frac{m}{m-3}}{\frac{5}{m-3} + \frac{m}{m-3}}$$

Simplify each and state the excluded values.

$$11) \frac{x^2 - 12x + 35}{3x^3 - 9x^2 - 30x}$$

$$12) \frac{3n + 15}{2n^2 + 6n - 20}$$

13) a) Divide the following polynomial by $(x^2 - 2)$ using LONG DIVISION. Show all your work.

$$y = x^3 + 5x^2 + 7x + 3$$