

WARMUP

Simplify by adding or subtracting. State the restrictions.

1)  $\frac{5x}{x^2 - 5x - 14} - \frac{4}{x - 7}$

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

$\frac{5x}{(x-7)(x+2)} - \frac{4(x+2)}{(x-7)(x+2)}$

$\frac{x^2}{x(x-5)} + \frac{4x^2 - 20x}{x(x-5)}$

$\frac{5x}{(x-7)(x+2)} - \frac{4x+8}{(x-7)(x+2)}$

$\frac{5x^2 - 20x}{x(x-5)}$

$5x - 4x - 8$

$5x(x-4)$

$\frac{x-8}{(x-7)(x+2)}$

$\frac{x(x-5)}$

3)  $\frac{8}{x-8} - \frac{6(-1)}{8-x} = \frac{8}{x-8} - \frac{-6}{x-8} = \frac{14}{x-8}$

4)  $\frac{x^2 - 8x - 9}{x^2 - 1} \cdot \frac{2x - 2}{2x^2 - 17x - 9}$  Simplify by multiplying or dividing.

$\frac{(x-9)(x+1)}{(x+1)(x-1)} \cdot \frac{2(x-1)}{(2x+1)(x-9)}$

$\frac{2}{2x+1}$

5)  $\frac{27x^2y^8}{x+2} \cdot \frac{x+2}{15x^9y} = \frac{27x^2y^8}{15x^9y}$

$\frac{9y^7}{5x^7}$