

Day 43 Warm-Up:

Add and subtract the following

common den.

$$1. \left(-\frac{1}{3}\right) + \frac{3}{8}$$

24 ✓

$$-\frac{8}{24} + \frac{9}{24}$$

$$3. \frac{9}{5} + \left(-\frac{4}{3}\right)$$

7
15

$$5. 1\frac{2}{5} - \left(-3\frac{3}{4}\right)$$

103
20

$$\frac{28}{20} + \frac{75}{20}$$

$$-\frac{60}{42} + \frac{7}{4}$$

$$2. \left(-\frac{10}{7}\right) + \frac{1}{6}$$

-53 ✓
42

$$4. \frac{2}{1} - \frac{13}{8}$$

3
8

$$6. 2\frac{4}{5} - \frac{5}{8}$$

16
9
87
40

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

$$= \frac{1}{x}$$

$$\frac{1}{6x} + \frac{2}{3x} - \frac{3}{4x}$$

12x

$$\frac{2}{12x} + \frac{8}{12x} - \frac{9}{12x}$$

$$= \frac{1}{12x}$$

$$\frac{3}{7x^2y} + \frac{4}{21xy^2}$$

21x²y²

$$\frac{9y}{21x^2y^2} + \frac{4x}{21x^2y^2}$$

You try!

$$\frac{5y+2}{4xy^2} + \frac{2x-4}{4xy}$$

4xy²

$$\frac{3}{8x^3y^3} - \frac{1}{4xy}$$

$$\frac{9y+4x}{21x^2y^2}$$

$$\frac{20y+8}{4xy^2} + \frac{2xy-4y}{4xy^2} = \frac{16y+2xy+8}{4xy^2}$$

$$\frac{\cancel{2}(8y+xy+4)}{\cancel{2}(2xy^2)}$$

What if we don't have monomials?

$$\frac{w+12}{4w-16} - \frac{w+4}{2w-8}$$

① Factor

$$\frac{w+12}{4(w-4)} - \frac{w+4}{2(w-4)}$$

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

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

You try!

$$\frac{y}{2y+4} - \frac{3}{y+2}$$

$$\frac{w+12-2w-8}{4(w-4)}$$

$$\frac{5x^2+16x+12}{(x+2)^2(x-3)}$$

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

$$\frac{5x^2-4x+12}{(x-3)(x+2)(x+2)(x+2)}$$

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

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

Let's Practice Together!!!

Simplifying Complex Fractions

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

2. $\frac{\left(\frac{3}{x-4}\right)}{\left(\frac{1-\frac{2}{x-4}}{1}\right)}$

$\left(\frac{3}{x-4}\right) \cdot \left(\frac{1}{\frac{x-4}{2}}\right)$

3. $\frac{1 + \frac{2}{x}}{4 - \frac{6}{x}}$

$\frac{3}{x-4} \cdot \frac{-x+6}{2}$

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

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

You Try!

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

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