Adding and Subtracting Fractions (Day 1)

Converting Mixed Numbers into Improper Fractions

- multiply the denominator by the whole number and add the numerator
- the denominator stays the same

$2\frac{1}{3} = 2\frac{1}{3} = \frac{3X2+1}{3} = \frac{7}{3}$

Practice: $6\frac{3}{4}$ $\frac{27}{4}$

Adding/Subtracting Fractions with a Common Denominator

- add/subtract the numerators
- keep the common denominator

$\frac{3}{7}+\frac{2}{7} = \frac{3+2}{7} = \frac{5}{7}$

Practice: $\frac{8}{11}-\frac{5}{11}$ $\frac{3}{11}$

Adding/Subtracting Mixed Numbers with a Common Denominator

- convert into improper fractions
- add/subtract the numerators
- keep the common denominator

$5\frac{1}{4} - 2\frac{3}{4}$

$\frac{21}{4} - \frac{11}{4} = \frac{10}{4} = \frac{5}{2}$

Practice: $2\frac{3}{8} - 1\frac{5}{8}$ $\frac{19}{8} - \frac{13}{8} = \frac{6}{8} = \frac{3}{4}$

Adding/Subtracting without a Common Denominator

- list the multiples of all denominators and find the Least Common Multiple (LCM)
- Rewrite all fractions in an equivalent form with the LCM
- add/subtract as normal

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

Multiples of 3: 3, 6, 9, 12, 15, 18, 21

Multiples of 5: 5, 10, 15, 20, 25, 30

LCM = 15

$\frac{2\cdot5}{3\cdot5} = \frac{10}{15}$

$\frac{1\cdot3}{5\cdot3} = \frac{3}{15}$

$1 + 3,5$

$\frac{13}{15}$

Adding/Subtracting without a Common Denominator

$\frac{5\cdot5}{5\cdot6} + \frac{1\cdot6}{5\cdot6}$

$\frac{25}{30} + \frac{6}{30} = \frac{31}{30}$

$\frac{3\cdot1}{3\cdot2} - \frac{1\cdot2}{3\cdot2}$

$\frac{3}{6} - \frac{2}{6} = \frac{1}{6}$

Adding/Subtracting Fractions Practice

$2\frac{1}{4} + 5\frac{2}{7}$

$\frac{7\cdot9}{7\cdot4} + \frac{37\cdot4}{7\cdot4}$

$\frac{63}{28} + \frac{148}{28} = \frac{211}{28} = 7\frac{15}{28}$

$5\frac{1}{5} - 2\frac{1}{6}$

$\frac{6\cdot26}{6\cdot5} - \frac{13\cdot5}{6\cdot5}$

$\frac{156}{30} - \frac{65}{30} = \frac{91}{30}$

$3\frac{1}{30}$

Adding/Subtracting Fractions Practice

$2\frac{1}{4} - 5\frac{2}{7}$

$-\frac{85}{28}$

$\frac{7\cdot9}{7\cdot4} - \frac{37\cdot4}{7\cdot4}$

$\frac{63}{28} - \frac{148}{28} = -\frac{85}{28}$

$\frac{16}{56} + \frac{21}{56}$

$\frac{8\cdot2}{8\cdot7} + \frac{3\cdot7}{8\cdot7}$

$\frac{37}{56}$

Adding/Subtracting Fractions Practice

$-3\frac{1}{8} - 5\frac{2}{5}$

$-\frac{25}{8} - \frac{27}{5}$

$-\frac{125}{40} - \frac{216}{40} =$

$-\frac{341}{40}$

$2 \times 5 = 25$

$27 \times 8 = 216$

$-\frac{1}{4} + \frac{1}{3}$

$-\frac{3}{12} + \frac{4}{12}$

$\frac{1}{12}$

$-\frac{1}{4} - (-\frac{1}{3})$

Warm up 10/9

Simplify:

$-(2x+5-3y) - (4x-7+2y)$

$-2x-5+3y-4x+7-2y$

$-6x+1y+2$