

# FRACTIONS

11/14

Skills

## ADDITION/SUBTRACTION

### SAME DENOMINATORS

- ADD/SUBTRACT the numerators
- KEEP the denominator
- ADD/SUBTRACT whole numbers
- SIMPLIFY, if possible

Examples:

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

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

### DIFFERENT DENOMINATORS

- FIND a common denominator
- CHANGE to equivalent fractions using the common denominator
- ADD/SUBTRACT numerators
- KEEP the denominator
- ADD/SUBTRACT whole numbers
- SIMPLIFY, if possible

Examples:

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

$$\frac{4}{6} + \frac{3}{6} = \frac{7}{6} = 1\frac{1}{6}$$

## MULTIPLICATION

- CONVERT mixed numbers to improper fractions
- CROSS CANCEL, if possible
- MULTIPLY numerators
- MULTIPLY denominators
- SIMPLIFY, if possible

Examples:

$$\frac{3}{4} \times \frac{2}{5} = \frac{6}{20} = \frac{3}{10}$$

$$1\frac{1}{3} \times 2\frac{3}{4} = \frac{4}{3} \times \frac{11}{4} = \frac{11}{3} = 3\frac{2}{3}$$

## DIVISION

- CONVERT mixed numbers to improper fractions
- KEEP the first fraction
- CHANGE the division symbol to multiplication
- FLIP the second fraction (write the reciprocal)
- Follow the multiplication rules

Examples:

$$4\frac{1}{3} \div 2\frac{1}{6} = \frac{13}{3} \div \frac{13}{6} =$$

$$\frac{13}{3} \times \frac{6}{13} = \frac{6}{3} = 2$$