

Key Vocabulary

Simplify Fractions

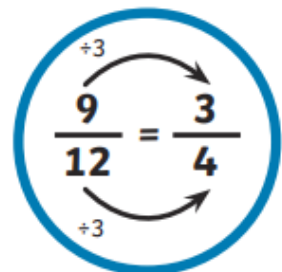
Compare and Order Fractions

numerator
denominator
proper fraction
improper fraction
factor
highest common multiple
lowest common multiple
equivalents
common numerator
common denominator
decimal equivalent
simplify
simplest form
mixed number
whole number
mixed number



Factors of 9:
1, 3, 9

Factors of 12:
1, 2, 3, 4, 6, 12



Use the Common Denominator

Multiples of 5: 5, 10, 15

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

$\frac{3}{5} < \frac{2}{3}$

$\frac{9}{15} < \frac{10}{15}$

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

Use the Common Numerator

Multiples of 5: 5, 10, 15

Multiples of 10: 10, 20

$\frac{5}{8} < \frac{10}{13}$

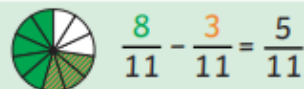
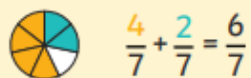
$\frac{10}{16} < \frac{10}{13}$

$\frac{10}{13} = \frac{10}{13}$

Adding and Subtracting Proper Fractions

Adding and Subtracting Mixed Numbers

Same Denominators



Different Denominators

$$\frac{2}{7} \quad \frac{3}{5}$$

$$\frac{9}{10} \quad \frac{1}{4}$$

Multiples of 7: 7, 14, 21, 28, **35**
 Multiples of 5: 5, 10, 15, 20, 25, 30, **35**

Multiples of 10: 10, **20**
 Multiples of 4: 4, 8, 12, 16, **20**

$$\frac{2}{7} = \frac{10}{35}, \quad \frac{3}{5} = \frac{21}{35}$$

$$\frac{9}{10} = \frac{18}{20}, \quad \frac{1}{4} = \frac{5}{20}$$

$$\frac{10}{35} + \frac{21}{35} = \frac{31}{35}$$

$$\frac{18}{20} - \frac{5}{20} = \frac{13}{20}$$

Add or subtract the whole numbers and fractions separately.

$$2\frac{2}{5} + 1\frac{3}{10}$$

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

$$2 + 1 = 3$$

$$2 - 1 = 1$$

$$\frac{2}{5} + \frac{3}{10} = \frac{4}{10} + \frac{3}{10} = \frac{7}{10}$$

$$\frac{1}{2} - \frac{1}{4} = \frac{2}{4} - \frac{1}{4} = \frac{1}{4}$$

$$3 + \frac{7}{10} = 3\frac{7}{10}$$

$$1 + \frac{1}{4} = 1\frac{1}{4}$$

Convert the mixed numbers to improper fractions.

$$2\frac{2}{5} + 1\frac{3}{10}$$

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

$$2\frac{2}{5} = \frac{12}{5}$$

$$1\frac{3}{10} = \frac{13}{10}$$

$$2\frac{1}{2} = \frac{5}{2}$$

$$1\frac{1}{4} = \frac{5}{4}$$

$$\frac{12}{5} + \frac{13}{10} = \frac{24}{10} + \frac{13}{10} = \frac{37}{10}$$

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

$$\frac{37}{10} = 3\frac{7}{10}$$

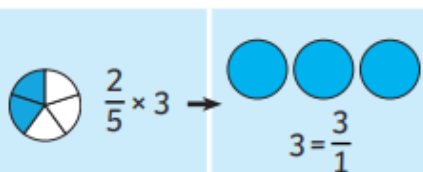
$$\frac{5}{4} = 1\frac{1}{4}$$

Multiplying Proper Fractions

Multiplying Fractions by Fractions

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

Multiplying Fractions by Whole Numbers



$$\frac{2}{5} \times \frac{3}{1} = \frac{6}{5} = 1\frac{1}{5}$$

Dividing Fractions by Whole Numbers

$$\frac{2}{5} \div 2 = \frac{1}{5}$$

Multiplication and division are the inverse of one another so:

÷ 2 is the same as × 1/2

$$\frac{2}{5} \times \frac{1}{2} = \frac{2}{10}$$