

Year 6 Fractions Knowledge

$\frac{1}{2} = \frac{2}{4} = \frac{4}{8}$
 equivalent

$\frac{4}{8} = \frac{2}{4} = \frac{1}{2}$
 simplest form

$\frac{7}{10}$ ←
 numerator

$\frac{7}{10}$ ←
 denominator

$3.\overset{\cdot}{5}$
 whole number

$\frac{5}{6}, \frac{1}{2}, \frac{3}{10}$
 proper fraction

$\frac{9}{4}, \frac{7}{2}, \frac{10}{7}$
 improper fraction

$5\frac{2}{7}$
 mixed number

Compare and Order Fractions

Use the Common Denominator

Multiples of 5: 5, 10, 15

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

$\frac{3}{5} = \frac{9}{15}$
 $\frac{2}{3} = \frac{10}{15}$
 $\frac{9}{15} < \frac{10}{15}$

Use the Common Numerator

Multiples of 5: 5, 10, 15

Multiples of 10: 10, 20

$\frac{5}{8} = \frac{10}{16}$
 $\frac{10}{16} < \frac{10}{13}$
 $\frac{10}{13} = \frac{10}{13}$

Simplify Fractions

$\frac{9}{12}$

Factors of 9: 1, 3, 9

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

$\frac{9}{12} = \frac{3}{4}$

Adding and Subtracting Proper Fractions

Same Denominators

$$\frac{4}{7} + \frac{2}{7} = \frac{6}{7}$$

$$\frac{8}{11} - \frac{3}{11} = \frac{5}{11}$$

Different Denominators

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

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

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

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

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

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

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

Adding and Subtracting Mixed Numbers

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

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

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

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

Dividing Fractions by Whole Numbers

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

Multiplication and division are the inverse of one another so:

$\div 2$ is the same as $\times \frac{1}{2}$

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