Working With Fractions

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Mathematics 9
Working with Fractions

A. Simplifying Fractions

Simplifying fractions means to reduce the fraction to its lowest terms or its simplest form. When reducing, you are looking for the largest number which divides evenly into both the numerator and denominator of the fraction. If you don't choose the largest number, you can still get the fraction reduced, it just might take you a bit longer.

$\frac{12}{60} \div 6 = \frac{2}{10} \div 2 = \boxed{\frac{1}{5}}$

$\frac{12}{60} \div 4 = \frac{3}{15} \div 3 = \boxed{\frac{1}{5}}$

$\frac{12}{60} \div 2 = \frac{6}{30} \div 2 = \frac{3}{15} \div 3 = \boxed{\frac{1}{5}}$

$\frac{12}{60} \div 12 = \boxed{\frac{1}{5}}$

B. Changing Mixed Numbers to Improper Fractions

Fractions which are greater than one can be written in two different ways: Mixed Numbers or Improper Fractions.

multiply $5\frac{1}{2}$ add $= \boxed{\frac{11}{2}}$

$2\frac{3}{5} = \boxed{\frac{13}{5}}$

$7\frac{3}{4} = \boxed{\frac{31}{4}}$

C. Changing Improper Fractions to Mixed Numbers

$\frac{20}{3}$ = $20 \div 3$ = $6\frac{2}{3}$ ← remainder

$\frac{15}{4}$ = $3\frac{3}{4}$

$\frac{32}{9}$ = $3\frac{5}{9}$

D. Practice Questions

1) Simplify the following fractions.

a) $\frac{25 \div 5}{35 \div 5}$ = $\frac{5}{7}$

b) $\frac{32 \div 16}{48 \div 16}$ = $\frac{2}{3}$

c) $\frac{54 \div 18}{90 \div 18}$ = $\frac{3}{5}$

2) Change the following Mixed Numbers to Improper Fractions.

a) $4\frac{1}{3}$ = $\frac{13}{3}$

b) $6\frac{3}{4}$ = $\frac{27}{4}$

c) $8\frac{2}{5}$ = $\frac{42}{5}$

3) Change the following Improper Fractions to Mixed Numbers.

a) $\frac{15}{4}$ = $3\frac{3}{4}$

b) $\frac{22}{3}$ = $7\frac{1}{3}$

c) $\frac{35}{8}$ = $4\frac{3}{8}$

Assignment: Working With Fractions Assignment

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Simplify the Fractions

$\frac{20}{24} =$	$\frac{20}{45} =$
$\frac{21}{56} =$	$\frac{18}{63} =$
$\frac{18}{90} =$	$\frac{42}{48} =$
$\frac{8}{64} =$	$\frac{16}{28} =$
$\frac{30}{42} =$	$\frac{24}{32} =$
$\frac{36}{72} =$	$\frac{9}{54} =$
$\frac{15}{40} =$	$\frac{40}{90} =$
$\frac{24}{28} =$	$\frac{6}{36} =$

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Convert Improper Fraction into Mixed Fraction

$\frac{11}{4} =$	$\frac{17}{8} =$
$\frac{33}{5} =$	$\frac{28}{3} =$
$\frac{41}{6} =$	$\frac{10}{3} =$
$\frac{32}{9} =$	$\frac{18}{7} =$
$\frac{12}{5} =$	$\frac{29}{6} =$
$\frac{20}{9} =$	$\frac{35}{11} =$
$\frac{28}{3} =$	$\frac{17}{8} =$
$\frac{46}{5} =$	$\frac{34}{3} =$
$\frac{24}{7} =$	$\frac{25}{4} =$
$\frac{44}{3} =$	$\frac{38}{5} =$

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Convert Mixed Fraction into Improper Fraction

$5\frac{2}{5} =$	$7\frac{1}{3} =$
$7\frac{3}{4} =$	$5\frac{6}{7} =$
$4\frac{1}{5} =$	$3\frac{1}{4} =$
$8\frac{2}{9} =$	$2\frac{2}{5} =$
$3\frac{2}{7} =$	$5\frac{3}{10} =$
$9\frac{1}{9} =$	$8\frac{3}{4} =$
$2\frac{3}{8} =$	$1\frac{1}{6} =$
$1\frac{5}{6} =$	$7\frac{2}{5} =$
$6\frac{3}{4} =$	$4\frac{1}{2} =$
$9\frac{2}{5} =$	$8\frac{3}{8} =$