M9

Mixed Numbers and Fractions Notes

Properties	Proper Fraction	Improper Fraction	Fraction that is not proper nor it is improper
How do the denominator and numerator compare?	Numerator is smaller than the denominator. ("Bottom heavy")	Numerator is greater that the denominator. ("Top heavy")	Numerator is equal to the denominator.
What does it look like when expressed as a decimal?	• Starts with a zero	• Starts with a digit that is non-zero	• Evaluates to one unless it is $\left[\frac{0}{0}\right]$ which is does not have a meaning
Do we convert it to a mixed number?	NO	YES	NO
What does it look like when expressed as a percentage with a % sign?	• Smaller than 100%	• Greater than 100%	• 100%

Practice: Convert improper fractions to mixed numbers. Make sure to reduce the given fraction first.

$\frac{68}{16} = \frac{34}{8} = \frac{17}{4}$	$\frac{35}{15} = \frac{7}{3}$	$\frac{28}{3}$	$\frac{41}{5}$
$\frac{17}{4} = \boxed{4\frac{1}{4}}$	$\frac{7}{3} = \boxed{2\frac{1}{3}}$	$\frac{28}{3} = \boxed{9\frac{1}{3}}$	$\frac{41}{5} = \boxed{8\frac{1}{5}}$

- $17 \div 4 = 4.\square$
- $4 \times 4 = 16$
- $17 - 16 = 1$

Practice: Convert mixed numbers to improper fractions.

$1\frac{8}{9}$	$2\frac{6}{13}$	$9\frac{1}{4}$
$\frac{17}{9}$	$\frac{32}{13}$	$\frac{37}{4}$

$5\frac{8}{15}$	$4\frac{2}{7}$	$7\frac{6}{15}$
$\frac{83}{15}$	$\frac{30}{7}$	$\frac{111}{15}$