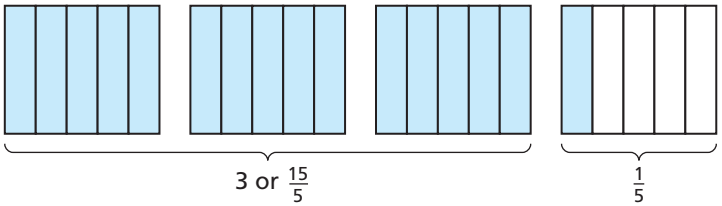
Name _____ Date _____

Mixed Numbers and Improper Fractions

A **mixed number** is the sum of a whole number and a fraction. An **improper fraction** is a fraction with a numerator that is greater than or equal to the denominator.

The shaded part of the model represents the mixed number $3\frac{1}{5}$ and the improper fraction $\frac{16}{5}$.



Example 1 **Write $4\frac{5}{8}$ as an improper fraction.**

$4\frac{5}{8} = 4 + \frac{5}{8}$ Definition of mixed number

$= \frac{32}{8} + \frac{5}{8}$ 1 whole $= \frac{8}{8}$. So, 4 wholes $= \frac{32}{8}$.

$= \frac{37}{8}$ Add.

▶ $4\frac{5}{8}$ written as an improper fraction is $\frac{37}{8}$.

Example 2 **Write $\frac{19}{7}$ as a mixed number.**

$7\overline{)19}$ Divide the numerator, 19, by the denominator, 7. The quotient is 2.

$\frac{14}{5}$ The remainder is 5. Write the remainder as a fraction, $\frac{\text{remainder}}{\text{divisor}}$.

▶ $\frac{19}{7}$ written as a mixed number is $2\frac{5}{7}$.

Practice

Check your answers at BigIdeasMath.com.

Write the mixed number as an improper fraction.

1. $1\frac{4}{5}$ **2.** $3\frac{1}{6}$ **3.** $10\frac{7}{10}$ **4.** $2\frac{12}{13}$

5. $6\frac{5}{9}$ **6.** $4\frac{3}{20}$ **7.** $7\frac{6}{7}$ **8.** $25\frac{2}{3}$

Write the improper fraction as a mixed number.

9. $\frac{9}{2}$ **10.** $\frac{13}{5}$ **11.** $\frac{25}{3}$ **12.** $\frac{31}{9}$

13. $\frac{59}{10}$ **14.** $\frac{43}{4}$ **15.** $\frac{35}{8}$ **16.** $\frac{67}{11}$

17. Find the improper fraction with a denominator of 8 that is equivalent to $3\frac{1}{2}$.

18. Find the improper fraction with a denominator of 12 that is equivalent to $5\frac{3}{4}$.