Mixed Numbers and Improper Fractions

TEKS 6.1.B

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 at the right represents the mixed number $2\frac{1}{4}$ and the improper fraction $\frac{9}{4}$.

EXAMPLE Write $5\frac{7}{8}$ as an improper fraction.

$5\frac{7}{8} = 5 + \frac{7}{8}$ Definition of mixed number

$= \frac{40}{8} + \frac{7}{8}$ 1 whole = $\frac{8}{8}$, so 5 wholes = $\frac{40}{8}$.

$= \frac{47}{8}$ Add.

EXAMPLE Write $\frac{17}{5}$ as a mixed number.

$5\overline{)17}$ Divide the numerator by the denominator: 17 ÷ 5.

$\frac{15}{2}$ The quotient is 3 and the remainder is 2.

▶ $\frac{17}{5} = 3\frac{2}{5}$ Write the remainder as a fraction, $\frac{\text{remainder}}{\text{divisor}}$.

PRACTICE

Write the mixed number as an improper fraction.

1. $1\frac{2}{3}$
2. $3\frac{1}{4}$
3. $10\frac{3}{10}$
4. $2\frac{3}{5}$
5. $4\frac{1}{2}$
6. $9\frac{1}{3}$
7. $1\frac{11}{12}$
8. $2\frac{3}{4}$
9. $6\frac{5}{8}$
10. $5\frac{9}{16}$
11. $8\frac{1}{8}$
12. $6\frac{3}{5}$
13. $7\frac{2}{9}$
14. $2\frac{3}{13}$
15. $12\frac{2}{3}$

Write the improper fraction as a mixed number.

16. $\frac{5}{2}$
17. $\frac{12}{5}$
18. $\frac{15}{8}$
19. $\frac{25}{4}$
20. $\frac{37}{3}$
21. $\frac{7}{4}$
22. $\frac{27}{8}$
23. $\frac{29}{10}$
24. $\frac{69}{16}$
25. $\frac{54}{5}$
26. $\frac{31}{4}$
27. $\frac{22}{5}$
28. $\frac{13}{3}$
29. $\frac{43}{9}$
30. $\frac{35}{11}$