Name _____ Date _____ Class _____

SKILL 14: Improper Fractions and Mixed Numbers

An improper fraction has a numerator that is greater than or equal to its denominator. So, it has a value greater than or equal to 1. A mixed number shows the sum of a whole number and a fraction.

Example 1

Write an improper fraction and a mixed number to describe the picture at the right.

The shapes are divided into fifths, so the denominator of the fraction will be 5. There are 12 shaded parts, so the numerator will be 12.

$\frac{12}{5}$ ← 12 shaded parts
$\frac{12}{5}$ ← all parts are fifths

There are 2 wholes shaded.
The third shape has 2 fifths shaded.

two wholes → $2\frac{2}{5}$ ← 2 shaded parts
$2\frac{2}{5}$ ← all parts are fifths

The improper fraction $\frac{12}{5}$ and the mixed number $2\frac{2}{5}$ are equivalent.

Example 2

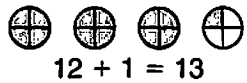
Write $3\frac{1}{4}$ as an improper fraction.

Step 1: Multiply the denominator by the whole number.

Step 2: Add the numerator.

Step 3: Use the sum from Step 2 as the numerator of the improper fraction. Use the denominator of the fraction.

So, $3\frac{1}{4} = \frac{13}{4}$. The improper fraction is $\frac{13}{4}$.



12 + 1 = 13

+

$3\ \frac{1}{4}$

×

4 × 3 = 12

Guided Practice

1. Write an improper fraction and a mixed number to describe the picture at the right. _____

2. Write $3\frac{4}{5}$ as an improper fraction.
   a. How many fifths are in 3 wholes? _____
   b. How many total fifths? _____
   c. Improper fraction: _____

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SKILL 14: Practice

Write an improper fraction and a mixed number to describe each picture.

1. 

_____

2. 

_____

3. 

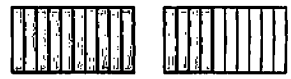
_____

4. 

_____

5. 

_____

6. 

_____

Write each mixed number as an improper fraction.

7. $2\frac{1}{6}$ _____
8. $5\frac{1}{5}$ _____
9. $1\frac{2}{5}$ _____
10. $13\frac{1}{2}$ _____
11. $8\frac{3}{4}$ _____
12. $3\frac{2}{3}$ _____
13. $14\frac{2}{9}$ _____
14. $12\frac{2}{3}$ _____
15. $3\frac{5}{8}$ _____
16. $9\frac{1}{9}$ _____
17. $7\frac{4}{5}$ _____
18. $8\frac{1}{3}$ _____
19. $4\frac{1}{4}$ _____
20. $9\frac{1}{2}$ _____
21. $12\frac{1}{3}$ _____
22. $2\frac{4}{7}$ _____

Solve.

23. Muriel counted 17 quarters in her bank. Write the amount of money she has in her bank as a mixed number. _____

24. Which shows the improper fraction for $6\frac{4}{7}$?

Skill 14

A $\frac{10}{7}$ C $\frac{46}{7}$

B $\frac{42}{7}$ D $\frac{64}{7}$

25. Which shows equivalent fractions for $\frac{5}{6}$ and for $\frac{11}{15}$ using the least common denominator?

Skill 13

F $\frac{25}{30}, \frac{22}{30}$ H $\frac{5}{30}, \frac{11}{30}$

G $\frac{75}{90}, \frac{66}{90}$ J $\frac{50}{60}, \frac{44}{60}$