Name _____ Date _____ Class _____

SKILL 18: Dividing Mixed Numbers

To divide mixed numbers, write each mixed number as an improper fraction. Then divide.

Example 1

Find the reciprocal of $3\frac{4}{5}$.

The mixed number $3\frac{4}{5}$ has the same reciprocal as the improper fraction $\frac{19}{5}$.

$3\frac{4}{5} = \frac{19}{5}$

Write the reciprocal.

Since $\frac{19}{5} \times \frac{5}{19} = 1$, the reciprocal of $\frac{19}{5}$ is $\frac{5}{19}$.

So, the reciprocal of $3\frac{4}{5}$ is $\frac{5}{19}$.

Example 2

Divide: $3\frac{2}{3} \div 1\frac{3}{4}$.

$3\frac{2}{3} \div 1\frac{3}{4} = \frac{11}{3} \div \frac{7}{4}$ Write the mixed numbers as improper fractions.

$= \frac{11}{3} \times \frac{4}{7}$ Write the reciprocal of the divisor and change the division to multiplication.

$= \frac{11 \times 4}{3 \times 7}$ Multiply.

$= \frac{44}{21}$ Check that your answer is in simplest form.

$= 2\frac{2}{21}$

So, $3\frac{2}{3} \div 1\frac{3}{4} = 2\frac{2}{21}$.

Guided Practice

Write each mixed number as an improper fraction and find its reciprocal.

1. $3\frac{1}{2} = \frac{\square}{2}$. Reciprocal: $\frac{\square}{\square}$.

2. $2\frac{3}{4} = \frac{\square}{\square}$. Reciprocal: $\frac{\square}{\square}$.

3. $4\frac{1}{3} = \frac{\square}{\square}$. Reciprocal: $\frac{\square}{\square}$.

4. $1\frac{5}{8} = \frac{\square}{\square}$. Reciprocal: $\frac{\square}{\square}$.

Divide. Write each quotient in simplest form.

5. $\frac{4}{5} \div 1\frac{2}{5} = \frac{4}{5} \div \frac{\square}{5} = \frac{4}{5} \times \frac{\square}{\square} =$ _____

6. $2\frac{1}{2} \div 1\frac{3}{8} = \frac{\square}{2} \div \frac{\square}{8} = \frac{\square}{\square} \times \frac{\square}{\square} =$ _____

Name _____ Date _____ Class _____

SKILL 18: Practice

Divide. Simplify each quotient.

1. $1\frac{4}{5} \div \frac{1}{3} =$ _____
2. $1\frac{2}{3} \div \frac{1}{8} =$ _____
3. $3\frac{4}{7} \div 3\frac{1}{2} =$ _____
4. $3\frac{4}{5} \div 1\frac{5}{7} =$ _____
5. $\frac{2}{5} \div 4\frac{3}{5} =$ _____
6. $4\frac{1}{8} \div \frac{3}{7} =$ _____
7. $2\frac{1}{2} \div 4\frac{2}{5} =$ _____
8. $2\frac{4}{5} \div 7 =$ _____
9. $\frac{5}{6} \div 1\frac{3}{4} =$ _____
10. $\frac{1}{3} \div 2\frac{1}{6} =$ _____
11. $1\frac{4}{9} \div \frac{6}{7} =$ _____
12. $1\frac{3}{4} \div \frac{4}{5} =$ _____
13. $5 \div 3\frac{1}{4} =$ _____
14. $2\frac{1}{4} \div 3\frac{4}{9} =$ _____
15. $4\frac{2}{7} \div 1\frac{1}{6} =$ _____
16. $\frac{8}{9} \div 2\frac{5}{7} =$ _____
17. $1\frac{1}{4} \div 2\frac{2}{3} =$ _____
18. $\frac{1}{4} \div 1\frac{5}{9} =$ _____
19. $2\frac{1}{4} \div 2\frac{1}{4} =$ _____
20. $1\frac{7}{8} \div 1\frac{1}{4} =$ _____
21. $1\frac{3}{4} \div \frac{1}{5} =$ _____
22. $4\frac{2}{7} \div 1\frac{1}{2} =$ _____
23. $5\frac{1}{7} \div 2\frac{1}{2} =$ _____
24. $1\frac{1}{9} \div 3 =$ _____
25. $1 \div 3\frac{5}{7} =$ _____
26. $1\frac{1}{3} \div 1\frac{2}{3} =$ _____
27. $1\frac{1}{2} \div 2\frac{3}{4} =$ _____

Solve.

28. Tom made $2\frac{1}{2}$ batches of cookies. He used $6\frac{2}{3}$ cups of flour. How much flour is used to make 1 batch? _____

29. Sonya has $3\frac{1}{3}$ yards of fabric that she wants to cut into 6 pieces of the same length. How long should she cut each piece? _____

TEST PREP

30. Find $1\frac{1}{6} \div 2\frac{3}{4}$ in simplest form. *Skill 18*

A $\frac{7}{11}$ C $2\frac{5}{14}$

B $\frac{14}{33}$ D $3\frac{5}{24}$

31. Find $8\frac{1}{5} - 6\frac{3}{5}$ in simplest form. *Skill 6*

F $1\frac{2}{5}$ H $2\frac{2}{5}$

G $1\frac{3}{5}$ J $2\frac{3}{5}$