Module 6 Computational Fluency of Fractions
Lesson 6   Dividing Fractions

Divide.

1. $\dfrac{1}{2} \div 3$

$\dfrac{1}{6}$

2. $\dfrac{5}{8} \div 5$

$\dfrac{1}{8}$

3. $\dfrac{3}{7} \div 2$

$\dfrac{3}{14}$

4. $2\dfrac{1}{3} \div 3$

$\dfrac{7}{9}$

5. $5\dfrac{1}{4} \div 7$

$\dfrac{3}{4}$

6. $10\dfrac{4}{5} \div 3$

$3\dfrac{3}{5}$

7. Mary feeds her cat the same amount of food each day. If she feeds her cat $6\dfrac{1}{8}$ cups of food over seven days, how much will the cat eat each day?

The cat will eat $\dfrac{7}{8}$ cup of food each day.

Divide.

8. $10 \div \dfrac{1}{2}$

20

9. $5 \div 2\dfrac{1}{2}$

2

10. $\dfrac{2}{5} \div \dfrac{2}{7}$

$1\dfrac{2}{5}$

11. $\dfrac{1}{3} \div \dfrac{1}{3}$

1

12. $2\dfrac{3}{4} \div 1\dfrac{1}{8}$

$2\dfrac{4}{9}$

13. $7\dfrac{1}{2} \div 1\dfrac{3}{7}$

$5\dfrac{1}{4}$

Evaluate.

14. $\dfrac{3}{5} \times \dfrac{1}{2} \div \dfrac{9}{10}$

$\dfrac{1}{3}$

15. $1\dfrac{5}{9} + 3\dfrac{1}{2} \div 7$

$2\dfrac{1}{18}$

Journal

1. Use the rules for dividing to explain why a proper fraction divided by itself equals one.

2. Explain two ways to find the quotient $\dfrac{3}{5} \div \dfrac{1}{2}$.

3. Use an example to tell why the quotient of a whole number divided by a proper fraction is greater than the whole number.

Cumulative Review

Evaluate.

1. 2^6

    64

2. $3^3 - 1^4$

    26

3. 5^{-3}

    $\dfrac{1}{125}$

Add or subtract.

4. $\dfrac{4}{5} + \dfrac{1}{4}$

    $1\dfrac{1}{20}$

5. $\dfrac{7}{8} - \dfrac{1}{4}$

    $\dfrac{5}{8}$

6. $1\dfrac{2}{3} + 3\dfrac{5}{6}$

    $5\dfrac{1}{2}$

7. $16 - 7\dfrac{1}{5}$

    $8\dfrac{4}{5}$

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Multiply.

8.
$$5 \times \frac{4}{5}$$

4

9.
$$\frac{1}{2} \times \frac{4}{9}$$

$$\frac{2}{9}$$

10.
$$7\frac{1}{3} \times \frac{6}{11}$$

4

11.
$$2\frac{2}{5} \times 4\frac{1}{6}$$

10

Possible Journal Answers

1. The rules state to multiply by the reciprocal of the divisor. Once that occurs, the numerator in the divisor will be the same number as the denominator in the dividend, so they will each simplify to one. Also, the denominator in the divisor will be the same number as the numerator in the dividend, so they will also each simplify to one. The product of the numerators is one. The product of the denominators is one. That makes the entire product one.

2. One way is to multiply by the reciprocal of the divisor, so $\frac{3}{5} \div \frac{1}{2}$ becomes $\frac{3}{5} \times 2$ which is $\frac{3}{5} \times \frac{2}{1}$, or $\frac{6}{5}$ which simplifies to $1\frac{1}{5}$. Another way is to write the fractions with a common denominator and then divide the numerators. A common denominator is ten: $\frac{6}{10} \div \frac{5}{10}$. The quotient of the numerators is $\frac{6}{5}$ or, $1\frac{1}{5}$.

3. The quotient of a whole number and one would be the whole number. Dividing a whole number by a proper fraction is the same as dividing a whole number by a value less than one. This means the amount in each group is less than one, so the number of groups is increased. In $5 \div \frac{1}{2}$, the quotient is the number of halves in five. There are 10 halves in five, and 10 is greater than five.