NAME _____ DATE **12-5-23** PERIOD _____

Lesson 6 - Practice

Multiply Fractions

To multiply fractions, multiply the numerators and multiply the denominators.

$$\frac{5}{6} \times \frac{3}{5} = \frac{5 \times 3}{6 \times 5} = \frac{15}{30} = \frac{1}{2}$$

To multiply mixed numbers, rename each mixed number as an improper fraction. Then multiply the fractions.

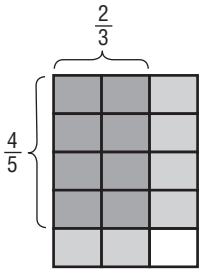
$$2\frac{2}{3} \times 1\frac{1}{4} = \frac{8}{3} \times \frac{5}{4} = \frac{40}{12} = 3\frac{1}{3}$$

Example 1

Find $\frac{2}{3} \times \frac{4}{5}$. Write in simplest form.

$\frac{2}{3} \times \frac{4}{5} = \frac{2 \times 4}{3 \times 5}$ ← Multiply the numerators. ← Multiply the denominators.

$= \frac{8}{15}$ Simplify.



Example 2

Find $\frac{1}{3} \times 2\frac{1}{2}$. Write in simplest form.

$\frac{1}{3} \times 2\frac{1}{2} = \frac{1}{3} \times \frac{5}{2}$ Rename $2\frac{1}{2}$ as an improper fraction, $\frac{5}{2}$.

$= \frac{1 \times 5}{3 \times 2}$ Multiply.

$= \frac{5}{6}$ Simplify.

Exercises

Multiply. Write in simplest form.

1. $\frac{2}{3} \times \frac{2}{3}$

2. $\frac{1}{2} \times \frac{7}{8}$

3. $-\frac{1}{3} \times \frac{3}{5}$

4. $\frac{5}{9} \times 4$

5. $1\frac{2}{3} \times \left(-\frac{3}{5}\right)$

6. $3\frac{3}{4} \times 1\frac{1}{6}$

7. $\frac{3}{4} \times 1\frac{2}{3}$

8. $-3\frac{1}{3} \times \left(-2\frac{1}{2}\right)$

9. $4\frac{1}{5} \times \frac{1}{7}$

10. $\frac{7}{5} \times 8$

11. $-2\frac{1}{3} \times \frac{4}{6}$

12. $\frac{1}{8} \times 2\frac{3}{4}$

Lesson 8 - Practice

Divide Fractions

To divide by a fraction, multiply by its multiplicative inverse or reciprocal. To divide by a mixed number, rename the mixed number as an improper fraction.

Example

Find $3\frac{1}{3} \div \frac{2}{9}$. Write in simplest form.

$3\frac{1}{3} \div \frac{2}{9} = \frac{10}{3} \div \frac{2}{9}$ Rename $3\frac{1}{3}$ as an improper fraction.

$= \frac{10}{3} \cdot \frac{9}{2}$ Multiply by the reciprocal of $\frac{2}{9}$, which is $\frac{9}{2}$.

$= \frac{\cancel{10}^{5}}{\cancel{3}_{1}} \cdot \frac{\cancel{9}^{3}}{\cancel{2}_{1}}$ Divide out common factors.

$= 15$ Multiply.

Exercises

Divide. Write in simplest form.

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

2. $\frac{2}{5} \div \frac{5}{6}$

3. $-\frac{1}{2} \div \frac{1}{5}$

4. $5 \div \left(-\frac{1}{2}\right)$

5. $\frac{5}{8} \div 10$

6. $7\frac{1}{3} \div 2$

7. $\frac{5}{6} \div 3\frac{1}{2}$

8. $36 \div 1\frac{1}{2}$

9. $-2\frac{1}{2} \div (-10)$

10. $5\frac{2}{5} \div 1\frac{4}{5}$

11. $6\frac{2}{3} \div 3\frac{1}{9}$

12. $4\frac{1}{4} \div \frac{2}{8}$

13. $4\frac{6}{7} \div 2\frac{3}{7}$

14. $12 \div \left(-2\frac{1}{2}\right)$

15. $4\frac{1}{6} \div 3\frac{1}{6}$