

Multiplying & Dividing Fractions

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Mathematics 9 Multiplying & Dividing Fractions

A. Multiplying Fractions

When multiplying fractions we multiply across the numerators (top) and across the denominators (bottom).

$$\frac{2}{3} \times \frac{2}{7} = \boxed{\frac{4}{21}}$$

If necessary, make sure to reduce your final answer to lowest terms. Cross reducing may be useful, particularly if you are dealing with very large fractions.

$$\frac{2}{3} \times \frac{5}{6} = \frac{1}{3} \times \frac{5}{3} = \boxed{\frac{5}{9}}$$

$$\frac{2}{25} \times \frac{15}{16} = \boxed{\frac{3}{40}}$$

B. Multiplying Mixed Numbers

It is generally easiest if you change the Mixed Numbers into Improper Fractions before trying to multiply.

$$3\frac{1}{2} \times 2\frac{3}{4} = \boxed{\frac{77}{8} \text{ or } 9\frac{5}{8}}$$

C. Dividing Fractions

Remember the KFC rule to change the division question into a multiplication question. Then just follow basic rules of multiplying fractions.

$$\frac{2}{5} \div \frac{3}{10}$$
$$\frac{2}{5} \times \frac{10}{3} = \frac{4}{3} \text{ or } 1\frac{1}{3}$$

K - Keep first fraction
F - Flip the second fraction
C - change divide to multiply.

D. Dividing Mixed Numbers

It is generally easiest if you change the Mixed Numbers into Improper Fractions before trying to divide.

$$2\frac{2}{3} \div 1\frac{1}{4}$$
$$\frac{8}{3} \div \frac{5}{4}$$
$$\frac{8}{3} \times \frac{4}{5} = \frac{32}{15} \text{ or } 2\frac{2}{15}$$

E. Practice Questions

$$1) \frac{10}{21} \times \frac{7}{20} = \frac{1}{6}$$

$$2) 1\frac{1}{5} \times 2\frac{3}{4}$$
$$\frac{6}{5} \times \frac{11}{4} = \frac{33}{10} \text{ or } 3\frac{3}{10}$$

$$3) \frac{5}{6} \div \frac{3}{4}$$
$$\frac{5}{6} \times \frac{4}{3} = \frac{10}{9} \text{ or } 1\frac{1}{9}$$

$$4) 4\frac{1}{2} \div 3\frac{1}{3}$$
$$\frac{9}{2} \div \frac{10}{3}$$
$$\frac{9}{2} \times \frac{3}{10} = \frac{27}{20} \text{ or } 1\frac{7}{20}$$

Assignment: Multiplying & Dividing Fractions Assignment

Name: _____

Multiplying & Dividing Fractions

1. $\frac{3}{8} \times \frac{1}{3}$

2. $\frac{1}{2} \div \frac{3}{8}$

3. $\frac{2}{5} \div \frac{4}{5}$

4. $\frac{6}{10} \times \frac{1}{3}$

5. $\frac{12}{18} \times \frac{12}{20}$

6. $\frac{6}{9} \div \frac{10}{16}$

7. $\frac{5}{20} \div \frac{3}{15}$

8. $\frac{16}{18} \times \frac{10}{12}$

9. $2\frac{1}{3} \times 2\frac{1}{4}$

10. $1\frac{1}{6} \div \frac{1}{3}$

11. $3\frac{1}{4} \div 1\frac{1}{2}$

12. $1\frac{1}{8} \times 1\frac{1}{9}$

13. $2\frac{2}{6} \div 1\frac{1}{4}$

14. $2\frac{2}{3} \times \frac{4}{8}$

15. $5\frac{1}{2} \div 2\frac{1}{5}$

16. $1\frac{1}{6} \times 1\frac{1}{8}$

Answers

1. $\frac{1}{8}$

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

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

4. $\frac{1}{5}$

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

6. $\frac{16}{15}$

7. $\frac{5}{4}$

8. $\frac{20}{27}$

9. $\frac{21}{4}$

10. $\frac{7}{2}$

11. $\frac{13}{6}$

12. $\frac{5}{4}$

13. $\frac{28}{15}$

14. $\frac{4}{3}$

15. $\frac{5}{2}$

16. $\frac{21}{16}$