

# Multiplying & Dividing Fractions

September-15-16  
3:06 PM

## Mathematics 9 Multiplying & Dividing Fractions

### A. Multiplying Fractions

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

$$\frac{2}{3} \times \frac{4}{7} = \boxed{\frac{8}{21}}$$

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.

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

$$\frac{1}{2} \times \frac{3}{5} = \boxed{\frac{3}{10}}$$

### B. Multiplying Mixed Numbers

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

$$3\frac{1}{2} \times 2\frac{3}{4} = \frac{7}{2} \times \frac{11}{4} = \boxed{\frac{77}{8} \text{ or } 9\frac{5}{8}}$$

### C. Dividing Fractions

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

$$\frac{2}{5} \div \frac{3}{10}$$

*(Handwritten notes: 2 and 10 are crossed out with red arrows pointing to them. A red arrow points from the crossed-out 2 to the multiplication sign, and another from the crossed-out 10 to the second fraction.)*

$$= \boxed{\frac{4}{3} \text{ or } 1\frac{1}{3}}$$

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.

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

$$\frac{8}{3} \div \frac{5}{4}$$

*(Handwritten notes: 8 and 4 are crossed out with red arrows pointing to them. A red arrow points from the crossed-out 8 to the multiplication sign, and another from the crossed-out 5 to the second fraction.)*

$$= \boxed{\frac{32}{15} \text{ or } 2\frac{2}{15}}$$

### E. Practice Questions

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

*(Handwritten notes: 10 and 21 are crossed out with red arrows pointing to them. A red arrow points from the crossed-out 10 to the multiplication sign, and another from the crossed-out 21 to the second fraction.)*

$$= \boxed{\frac{1}{6}}$$

$$2) 1\frac{1}{5} \times 2\frac{3}{4}$$

*(Handwritten notes: 6 and 4 are crossed out with red arrows pointing to them. A red arrow points from the crossed-out 6 to the multiplication sign, and another from the crossed-out 4 to the second fraction.)*

$$= \boxed{\frac{33}{10} \text{ or } 3\frac{3}{10}}$$

$$3) \frac{5}{6} \div \frac{3}{4}$$

*(Handwritten notes: 5 and 6 are crossed out with red arrows pointing to them. A red arrow points from the crossed-out 5 to the multiplication sign, and another from the crossed-out 6 to the second fraction.)*

$$= \boxed{\frac{10}{9} \text{ or } 1\frac{1}{9}}$$

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

*(Handwritten notes: 9 and 2 are crossed out with red arrows pointing to them. A red arrow points from the crossed-out 9 to the multiplication sign, and another from the crossed-out 2 to the second fraction.)*

$$= \boxed{\frac{27}{20} \text{ or } 1\frac{7}{20}}$$

Assignment: Multiplying & Dividing Fractions Assignment

Name: \_\_\_\_\_

Multiplying & Dividing Fractions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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