

6-3 Multiplying Fractions (Pages 284–288)

Multiplying Fractions	<p>To multiply fractions, multiply the numerators and multiply the denominators.</p> <p>For fractions $\frac{a}{b}$ and $\frac{c}{d}$, where $b \neq 0$ and $d \neq 0$, $\frac{a}{b} \cdot \frac{c}{d} = \frac{ac}{bd}$.</p> <p>If fractions have common factors in the numerators and denominators, you can simplify before you multiply.</p>
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EXAMPLES

A Solve $x = \frac{1}{5} \cdot \frac{2}{3}$.

$$x = \frac{1}{5} \cdot \frac{2}{3}$$

$$= \frac{1 \cdot 2}{5 \cdot 3} \text{ or } \frac{2}{15}$$

B Solve $y = \frac{3}{4} \cdot \frac{2}{5}$.

$$y = \frac{3}{4} \cdot \frac{2}{5}$$

$$= \frac{3 \cdot \cancel{2}^1}{\cancel{2}^1 \cdot 5} \text{ The GCF of 2 and 4 is 2. Divide 2 and 4 by 2.}$$

$$= \frac{3 \cdot 1}{2 \cdot 5} \text{ or } \frac{3}{10}$$

Try These Together

Solve each equation. Write the solution in simplest form.

1. $t = \frac{2}{3} \cdot \frac{1}{4}$ 2. $\left(\frac{3}{5}\right)\left(\frac{1}{2}\right) = g$ 3. $c = \left(\frac{3}{5}\right)\left(-\frac{1}{4}\right)$

PRACTICE

Solve each equation. Write the solution in simplest form.

4. $\left(-\frac{9}{10}\right)(-3) = h$ 5. $-\frac{1}{2} \cdot \left(\frac{3}{4}\right) = d$ 6. $m = 18\left(-\frac{2}{3}\right)$

7. $5\left(-\frac{12}{15}\right) = a$ 8. $n = \left(-\frac{5}{3}\right)\left(\frac{4}{2}\right)$ 9. $\left(-\frac{11}{20}\right) \cdot 4 = k$

10. $p = 3\left(-\frac{3}{4}\right)$ 11. $\left(-\frac{15}{21}\right)\left(-\frac{3}{5}\right) = w$ 12. $r = \left(-\frac{6}{18}\right)\left(\frac{9}{12}\right)$

13. What is the product of $\frac{12}{20}$ and $\frac{2}{3}$? 14. What is $\frac{5}{8}$ of 42?



15. Standardized Test Practice Jemeal has \$75 to go shopping. She spends $\frac{1}{3}$ of her money on CDs and $\frac{1}{8}$ on food at the food court. About how much money does she have left?

- A** \$54 **B** \$41 **C** \$33 **D** \$24

<p>Answers: 1. $\frac{6}{1}$ 2. $\frac{10}{3}$ 3. $-\frac{20}{3}$ 4. $2\frac{10}{7}$ 5. $-\frac{8}{3}$ 6. -12 7. -4 8. $-3\frac{3}{1}$ 9. $-2\frac{5}{1}$ 10. -3 11. $\frac{7}{3}$ 12. $-\frac{4}{1}$ 13. $\frac{5}{2}$ 14. $26\frac{4}{1}$</p>
