

Maths

Multiplying a fraction by a fraction

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Multiplying a fraction by a fraction

1. Multiply the fractions.

Give answers in their simplest form.

a) $\frac{1}{3} \times \frac{2}{9}$

b) $\frac{5}{8} \times \frac{3}{4}$

c) $\frac{2}{9} \times \frac{3}{4}$

d) $\frac{5}{12} \times \frac{3}{8}$

e) $-\frac{2}{3} \times \frac{7}{12}$

f) $\frac{3}{5} \times \left(-\frac{7}{9}\right)$

g) $\frac{5}{8} \times \frac{-4}{15}$

h) $-\frac{8}{15} \times \left(-\frac{5}{8}\right)$

2. Calculate.

a) $\left(\frac{4}{7}\right)^2$

b) $\left(-\frac{5}{9}\right)^2$

c) $\left(\frac{2}{5}\right)^3$

d) $\left(-\frac{3}{10}\right)^3$

3. Use your answers to question 2 to help you with these questions.

a) $\sqrt{\left(\frac{4}{81}\right)}$

b) $\sqrt[3]{\left(\frac{27}{64}\right)}$



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4. Multiply the mixed numbers.
Give answers in their simplest form.

a) $1\frac{7}{8} \times 2\frac{3}{5}$

b) $1\frac{1}{9} \times \left(-\frac{3}{4}\right)$

c) $2\frac{5}{12} \times \frac{3}{10}$

d) $-3\frac{7}{12} \times \frac{4}{7}$

e) $1\frac{2}{11} \times 3\frac{1}{3}$

f) $2\frac{1}{6} \times \left(-4\frac{3}{8}\right)$

g) $1\frac{7}{8} \times 2\frac{11}{12}$

h) $-2\frac{7}{9} \times \left(-5\frac{2}{5}\right)$

5. Use the digits 1, 2, 3, 4, 5, and 6 once only to make two mixed numbers with an integer product.

a) $\square \frac{\square}{\square} \times 1\frac{4}{5} = 12$

b) $\square \frac{1}{5} \times \square \frac{\square}{\square} = 14$

c) $6 \frac{\square}{\square} \times \square \frac{\square}{\square} = 28$



Answers



Multiplying a fraction by a fraction

1. Multiply the fractions.

Give answers in their simplest form.

$$\text{a) } \frac{1}{3} \times \frac{2}{9} = \frac{2}{27}$$

$$\text{b) } \frac{5}{8} \times \frac{3}{4} = \frac{15}{32}$$

$$\text{c) } \frac{2}{9} \times \frac{3}{4} = \frac{1}{6}$$

$$\text{d) } \frac{5}{12} \times \frac{3}{8} = \frac{5}{32}$$

$$\text{e) } -\frac{2}{3} \times \frac{7}{12} = -\frac{7}{18}$$

$$\text{f) } \frac{3}{5} \times \left(-\frac{7}{9}\right) = -\frac{7}{15}$$

$$\text{g) } \frac{5}{8} \times \frac{-4}{15} = -\frac{1}{6}$$

$$\text{h) } -\frac{8}{15} \times \left(-\frac{5}{8}\right) = \frac{1}{3}$$

2. Calculate.

$$\text{a) } \left(\frac{4}{7}\right)^2 = \frac{16}{49}$$

$$\text{b) } \left(-\frac{5}{9}\right)^2 = \frac{25}{81}$$

$$\text{c) } \left(\frac{2}{5}\right)^3 = \frac{8}{125}$$

$$\text{d) } \left(-\frac{3}{10}\right)^3 = -\frac{27}{1000}$$

3. Use your answers to question 2 to help you with these questions.

$$\text{a) } \sqrt{\left(\frac{4}{81}\right)} = \frac{2}{9} \text{ or } -\frac{2}{9} \quad \text{b) } \sqrt[3]{\left(\frac{27}{64}\right)} = \frac{3}{4}$$



Multiplying a fraction by a fraction

4. Multiply the mixed numbers.

Give answers in their simplest form.

$$\text{a) } \frac{7}{8} \times 2\frac{3}{5} = 2\frac{11}{40} \quad \text{b) } 1\frac{1}{9} \times \left(-\frac{3}{4}\right) = -\frac{5}{6}$$

$$\text{c) } 2\frac{5}{12} \times \frac{3}{10} = \frac{29}{40} \quad \text{d) } -3\frac{7}{12} \times \frac{4}{7} = -2\frac{1}{21}$$

$$\text{e) } 1\frac{2}{11} \times 3\frac{1}{3} = 3\frac{31}{33} \quad \text{f) } 2\frac{1}{6} \times \left(-4\frac{3}{8}\right) = -9\frac{23}{48}$$

$$\text{g) } 1\frac{7}{8} \times 2\frac{11}{12} = 5\frac{15}{32} \quad \text{h) } -2\frac{7}{9} \times \left(-5\frac{2}{5}\right) = 15$$

5. Use the digits 1, 2, 3, 4, 5, and 6 once only to make two mixed numbers with an integer product.

$$\text{a) } 6\frac{2}{3} \times 1\frac{4}{5} = 12$$

$$\text{b) } 4\frac{1}{5} \times 3\frac{2}{6} = 14$$

$$\text{c) } 6\frac{2}{3} \times 4\frac{1}{5} = 28$$

