



Unit 3 Lesson 1

Independent Practice

When multiplying fractions together, it may be helpful to draw a picture to model the situation.

Example: $\frac{2}{3} \times \frac{3}{4}$ can be interpreted as “two-thirds of a group of three-fourths.”

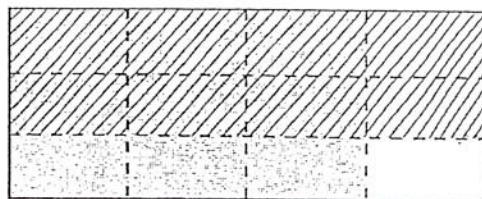
Step 1:

Represent $\frac{3}{4}$ by splitting the rectangle into fourths and shading 3 of those fourths.



Step 2:

Then represent $\frac{2}{3}$ of the $\frac{3}{4}$. Split the rectangle into thirds, and shade 2 of the thirds.



Step 3:

From looking at the picture model, we can see that the rectangle is now split into 12 equal parts. The shading overlaps in 6 of those parts so our answer is $\frac{6}{12}$ or $\frac{1}{2}$.

Step 4:

We can write a number sentence to represent this situation as $\frac{2}{3} \times \frac{3}{4} = \frac{6}{12}$. From the number sentence, we can also see that the numerator of the answer is the same as the product of the two numerators ($2 \times 3 = 6$), and the denominator of the answer is the same as the product of the denominators ($3 \times 4 = 12$).

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1. Draw a picture model and write a number sentence to represent the product of $\frac{3}{5}$ and $\frac{1}{3}$.



2. A plant grows at a rate of one and a half inches every three weeks. How much will it have grown after nine weeks? Justify your answer.
3. What is $4 \times \frac{5}{6}$?
4. A surveyor is doing research to market a new flavor of soda. He randomly surveys people outside of a shopping mall and documents that $\frac{3}{4}$ of the people who purchase soda from vending machines are between the ages of 15 and 22. Of those, $\frac{5}{8}$ of them are male and $\frac{3}{8}$ of them are female. What fractional part of the people surveyed represents females between the ages of 15 and 22?
5. Find the product of each of the following. Write your answer in simplest form.
- a) $2\frac{1}{4} \times 4\frac{2}{3}$ c) $\frac{5}{12} \times \frac{3}{4}$ e) $2\frac{1}{2} \cdot 1\frac{1}{5}$
- b) $\frac{7}{8} \cdot \frac{4}{5}$ d) $5\frac{2}{3} \cdot 6$ f) $\frac{7}{10} \times \frac{5}{8}$