Multiplying Fractions By Fractions

Most textbooks just plain 'announce' the rule for multiplying fractions by fractions. This lesson and the exercises in it will let you think and discover WHY the rule works. So please follow all the exercises.

We have studied how to find $\dfrac{1}{2}$ of a whole number. For example $\dfrac{1}{2} \times 24 =$ ___.

- The word *OF* translates into **MULTIPLICATION**.

The same idea works when finding $\dfrac{1}{2}$ of a fraction!

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1. The pictures show how much pizza is left, and you share it equally with your brother. Divide the pizza in the pictures. What kind of part do you get? Write a multiplication sentence.

a. Find $\dfrac{1}{2}$ of

$\dfrac{1}{2} \times \dfrac{1}{4} =$

b. Find $\dfrac{1}{2}$ of

___ × ___ =

c. Find $\dfrac{1}{2}$ of

___ × ___ =

d. Find $\dfrac{1}{2}$ of

___ × ___ =

Similarly, now share the remaining slice equally with two other people.

e. Find $\dfrac{1}{3}$ of

$\dfrac{1}{3} \times \dfrac{1}{2} =$

f. Find $\dfrac{1}{3}$ of

___ × ___ =

g. Find $\dfrac{1}{3}$ of

___ × ___ =

h. Find $\dfrac{1}{3}$ of

___ × ___ =

Similarly, now share the pizza slice equally with three other people.

i. Find $\dfrac{1}{4}$ of

___ × ___ =

j. Find $\dfrac{1}{4}$ of

___ × ___ =

k. Find $\dfrac{1}{4}$ of

___ × ___ =

l. Find $\dfrac{1}{4}$ of

___ × ___ =

Connections:

$\dfrac{1}{2}$ of a number is the same as dividing the number by 2!

$\dfrac{1}{2} \times 30 =$ ___ and $30 \div 2 =$ ___

$\dfrac{1}{2} \times \dfrac{1}{5} =$ ___ and $\dfrac{1}{5} \div 2 =$ ___

$\dfrac{1}{3}$ of a number is the same as dividing the number by 3!

$\dfrac{1}{3} \times 30 =$ ___ and $30 \div 3 =$ ___

$\dfrac{1}{3} \times \dfrac{1}{5} =$ ___ and $\dfrac{1}{5} \div 3 =$ ___

$\dfrac{1}{4}$ of a number is the same as dividing the number by 4!

$\dfrac{1}{4} \times 24 =$ ___ and $24 \div 4 =$ ___

$\dfrac{1}{4} \times \dfrac{1}{5} =$ ___ and $\dfrac{1}{5} \div 4 =$ ___