



What fraction equals $\frac{1}{3}$ of $\frac{1}{2}$?

Hmmm... Good question.

To find $\frac{1}{3}$ of $\frac{1}{2}$, we can split each half of our jump into three equal pieces.

Each piece is $\frac{1}{3}$ of $\frac{1}{2}$ of the jump.

$\frac{1}{3}$ of $\frac{1}{2}$

A vertical line with tick marks is shown on the right side of the panel, representing a number line or a measurement scale.

And since there are 6 equal pieces...

...each piece is $\frac{1}{6}$ of the jump.

So, $\frac{1}{3}$ of $\frac{1}{2}$ is $\frac{1}{6}$.

$\frac{1}{3}$ of $\frac{1}{2} = \frac{1}{6}$

A vertical line with tick marks is shown on the right side of the panel.

Finding a fraction of a number is the same as multiplying the fraction by the number.

So, $\frac{1}{3}$ of $\frac{1}{2}$ is $\frac{1}{3} \cdot \frac{1}{2} = \frac{1}{6}$.

$\frac{1}{3}$ of $\frac{1}{2} = \frac{1}{6}$

$\frac{1}{3} \cdot \frac{1}{2} = \frac{1}{6}$

We've never multiplied two fractions before! Let's try again. What's $\frac{1}{7} \cdot \frac{1}{4}$?

$\frac{1}{7} \cdot \frac{1}{4}$

Let's see...

...to compute $\frac{1}{7} \cdot \frac{1}{4}$, we can find $\frac{1}{7}$ of $\frac{1}{4}$ on the number line.

We start by splitting the number line between 0 and 1 into fourths.

$\frac{1}{4}$ is right here.

Then, to find $\frac{1}{7}$ of $\frac{1}{4}$, we split each fourth into 7 equal pieces.

Each piece is $\frac{1}{7}$ of $\frac{1}{4}$.

So, $\frac{1}{7}$ of $\frac{1}{4}$ is right here.

There are $4 \cdot 7 = 28$ pieces between 0 and 1, so each piece is $\frac{1}{28}$.

So, $\frac{1}{7}$ of $\frac{1}{4}$ is $\frac{1}{28}$.

Neat. So, when we multiply $\frac{1}{7} \cdot \frac{1}{4}$... we get $\frac{1}{7 \cdot 4}$.

Does that always work?

Is $\frac{1}{a} \cdot \frac{1}{b}$ always equal to $\frac{1}{a \cdot b}$?

$\frac{1}{7} \cdot \frac{1}{4} = \frac{1}{28}$

Is $\frac{1}{a} \cdot \frac{1}{b}$ always $\frac{1}{a \cdot b}$?

