

Name: _____

Fractions that equal 1

What fraction (part) of this hexagon is shaded gray?

All of it.

How can you write that as a fraction?



The hexagon has been divided into **6** equal pieces. **6** out of the **6** pieces are shaded gray . . . that's **6/6**.

6/6 of the hexagon is the **whole** hexagon.

6/6 is the same as **1** whole.

$$\mathbf{6/6 = 1.}$$



Look at the pentagon on the left.

5/5 of the pentagon is shaded. That's **1** whole pentagon.

5/5 is the same as **1** whole. **5/5 = 1**

6/6 and **5/5** are each equal to **1**. So are $7/7$, $15/15$, $2/2$, and $734/734$.

Any fraction with the same numerator and denominator is equal to **1**. *Why?*

Look at the square to the right. The whole square is shaded gray.

It has not been divided. There is only one piece.

What fraction of the square is shaded?

1 out of **1** piece is shaded. That's **1/1**.

1/1 square is the whole square.

1/1 is the same as **1** whole. **1/1 = 1**.



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Unit Fractions

Unit Fractions:

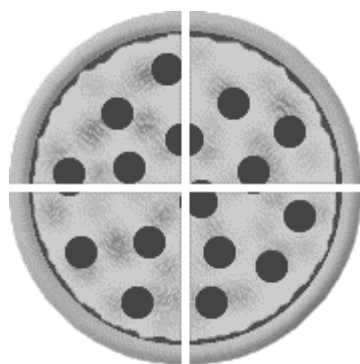
A fraction that has 1 for its numerator (top) is called a ***unit fraction***.

$\frac{1}{2}$ is a unit fraction. So is $\frac{1}{4}$.

$\frac{1}{3}$, $\frac{1}{5}$, $\frac{1}{6}$, $\frac{1}{19}$, $\frac{1}{56}$ are all unit fractions.

How do we get a unit fraction? We divide the whole into equal pieces (the denominator tells how many pieces) and take any 1 of them.

We can use unit fractions to build up larger fractions—in the same way that we use the number 1 to build up larger whole numbers.



This pizza is divided into 4 equal pieces. Each piece is $\frac{1}{4}$ of the pizza. Each piece represents the unit fraction $\frac{1}{4}$.

If you take 2 pieces, you have taken $\frac{1}{4}$ plus another $\frac{1}{4}$, or $\frac{2}{4}$ of the pizza.

$$\frac{2}{4} = \frac{1}{4} + \frac{1}{4} \quad \text{or} \quad \frac{2}{4} = 2 \times \frac{1}{4}$$

If you take 3 pieces, you have taken 3 one-fourths of the pizza, or $\frac{3}{4}$ of the pizza.

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4} \quad \text{or} \quad 3 \times \frac{1}{4} = \frac{3}{4}$$

What if you take all 4 pieces?

Then you have taken 1 whole pizza.

$$\underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}} = \mathbf{1} \quad \text{or}$$

$$\underline{\hspace{1cm}} \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}} = \mathbf{1}.$$