

First Tick Fractions

Find $1/b$ on a number line.

GRADE 3 • 3.NF.A.2a

CCSS.Math.Content.3.NF.A.2a "Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts..."

NAME _____

DATE _____

THE FIRST EQUAL PART

The distance from 0 to 1 is one whole. When you split that whole into b equal parts, each part is $1/b$. The endpoint of the first part, starting at 0, is located at $1/b$.

WORKED EXAMPLE

A number line from 0 to 1 is split into 9 equal parts. What fraction is at the first tick mark after 0?

1. The interval from 0 to 1 is one whole.
2. There are 9 equal parts.
3. Each equal part has size $1/9$.
4. The first tick mark after 0 is the endpoint of one part.

Answer: $1/9$

PRACTICE 6 problems

- 1** This number line is split into 4 equal parts: 0 | M | | 1. What fraction is at point M?

ANSWER _____

- 2** A number line from 0 to 1 is split into 7 equal parts. What fraction is at the first tick mark after 0?

ANSWER _____

- 3** This number line is split into 6 equal parts: 0 | A | B | C | D | E | 1. Which point is at $1/6$?

ANSWER _____

- 4** The interval from 0 to 1 is divided into 3 equal parts. What is the size of each part?

ANSWER _____

- 5** To show $1/8$ on a number line, how many equal parts should the interval from 0 to 1 have?

ANSWER _____

- 6** A number line from 0 to 1 is split into 6 equal parts. Mia says the first tick mark after 0 is $1/5$. What fraction should it be?

ANSWER _____

APPLY IT Show your work

- 1** A skate park map shows a path from 0 to 1 mile. The path is split into 4 equal sections. A water station is at the end of the first section. What fraction of a mile from 0 is the water station?

WORK SPACE

ANSWER _____

- 2** In a video game, a progress bar goes from 0 to 1 and is split into 10 equal sections. A star appears at the end of the first section. What fraction of the progress bar is filled when the star appears?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A number line from 0 to 1 is split into 12 equal parts. Point P is the endpoint of the first part starting at 0. Explain why point P is at $\frac{1}{12}$.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	This number line is split into 4 equal parts: 0 M 1. What fraction is at point M?	$\frac{1}{4}$
2	A number line from 0 to 1 is split into 7 equal parts. What fraction is at the first tick mark after 0?	$\frac{1}{7}$
3	This number line is split into 6 equal parts: 0 A B C D E 1. Which point is at $\frac{1}{6}$?	A
4	The interval from 0 to 1 is divided into 3 equal parts. What is the size of each part?	$\frac{1}{3}$
5	To show $\frac{1}{8}$ on a number line, how many equal parts should the interval from 0 to 1 have?	8 equal parts
6	A number line from 0 to 1 is split into 6 equal parts. Mia says the first tick mark after 0 is $\frac{1}{5}$. What fraction should it be?	$\frac{1}{6}$

PART 2 • APPLY IT

- $\frac{1}{4}$ mile** The whole path is 1 mile and it has 4 equal sections. One section is $\frac{1}{4}$ mile, so the end of the first section is $\frac{1}{4}$ mile from 0.
- $\frac{1}{10}$** The whole progress bar is split into 10 equal sections. The first section has size $\frac{1}{10}$, so the star is at $\frac{1}{10}$.

CHALLENGE

The whole interval is split into 12 equal parts, so each part is $\frac{1}{12}$. Point P is at the end of the first part from 0, so P is at $\frac{1}{12}$.

Accept correct fraction notation such as $\frac{1}{4}$ and correct unit labels in word problems. For the challenge, accept an explanation that names 12 equal parts and identifies the first endpoint after 0 as $\frac{1}{12}$.