

# Fraction Trail Markers

Mark equal lengths and locate their fraction endpoints.

**GRADE 3 • 3.NF.A.2b**

**CCSS.Math.Content.3.NF.A.2b** "Represent a fraction  $a/b$  on a number line diagram by marking off  $a$  lengths  $1/b$  from 0. Recognize that the resulting interval has size  $a/b$  and that its endpoint locates the number  $a/b$  on the number line."

NAME \_\_\_\_\_

DATE \_\_\_\_\_

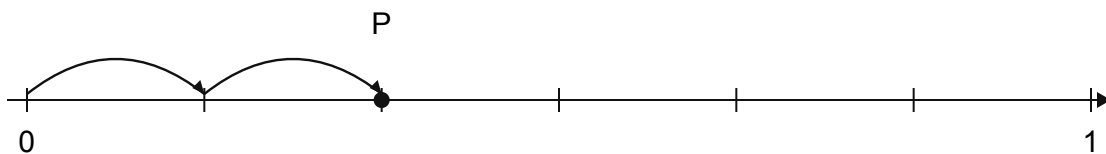
## Count Equal Lengths

The distance from 0 to 1 is one whole. Split each whole into equal lengths. For sixths, each length is  $1/6$ . Starting at 0, two lengths of  $1/6$  end at  $2/6$ . Count spaces, not tick marks.

## Worked example

Mark 2 lengths of size  $1/6$  from 0. Locate endpoint P.

Fraction number line (Wholes)



1. One whole is split into 6 equal lengths.
2. Start at 0 and draw 2 hops, each of length  $1/6$ .
3. The interval from 0 to P has length  $2/6$ .

**P locates  $2/6$ .**

Use a pencil. For marking tasks, draw a small hop over each counted length, starting at 0. Put a dot at the endpoint and label it. Write fractions, not decimals.

## Practice 1

What fraction does A locate? How many equal lengths are between 0 and A?

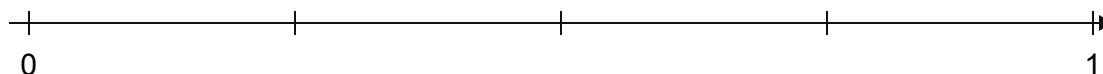
Fraction number line (Wholes)



### Practice 2

Draw 3 hops of length  $\frac{1}{4}$  from 0. Mark endpoint B and write its fraction.

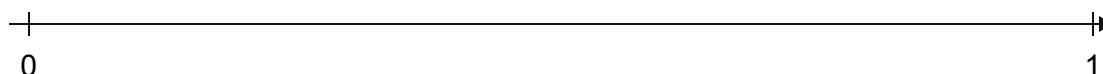
Fraction number line (Wholes)



### Practice 3

Split the whole from 0 to 1 into 2 equal lengths. Draw 1 hop from 0. Mark endpoint C and write its fraction.

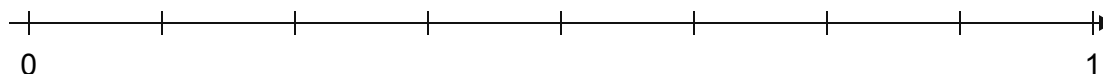
Fraction number line (Wholes)



### Practice 4

Draw 5 hops of length  $\frac{1}{8}$  from 0. Mark endpoint D and write its fraction.

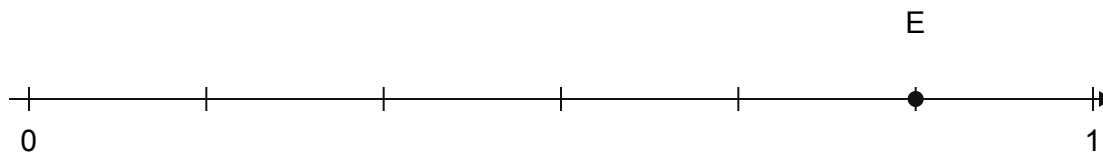
Fraction number line (Wholes)



### Practice 5

Point E is shown. Write its fraction and the size of each equal length.

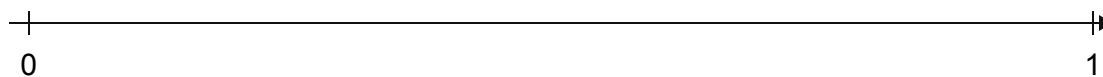
Fraction number line (Wholes)



### Practice 6

Split the whole into 4 equal lengths. Draw 2 hops from 0. Mark endpoint F. Write the fraction using fourths.

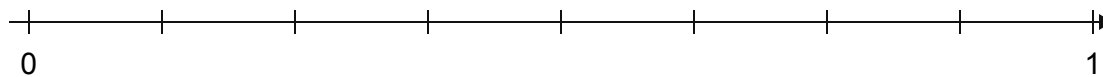
Fraction number line (Wholes)



### Apply It 1

A robot moves 5 lengths of  $\frac{1}{8}$  of a trail. Draw its hops from 0 and mark R. What fraction of the whole trail has it traveled?

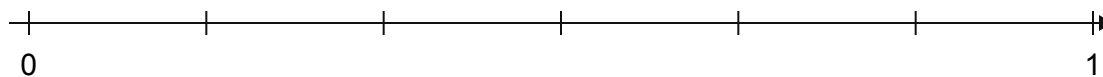
Fraction number line (Wholes)



## Apply It 2

A dance routine has 6 equal time blocks. Ava finishes 4 blocks. Show 4 hops from 0 and label endpoint V. What fraction of the routine is finished?

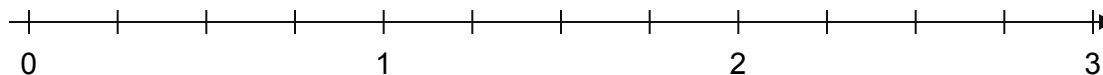
**Fraction number line (Wholes)**



## Challenge

The line shows 3 wholes. Draw 9 hops of length  $\frac{1}{4}$  from 0 and mark C. Write its fraction. Explain why C is greater than 2.

**Fraction number line (Wholes)**



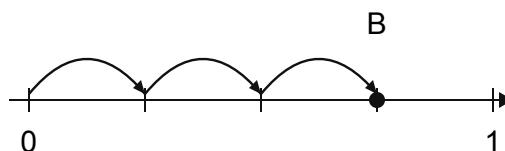
**PRACTICE 1**

A =  $\frac{2}{3}$ ; two lengths of  $\frac{1}{3}$ .

**PRACTICE 2**

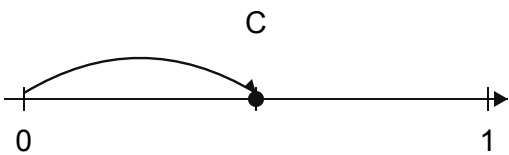
B =  $\frac{3}{4}$ ; three consecutive quarter-length hops from 0.

Fraction number line (Wholes)

**PRACTICE 3**

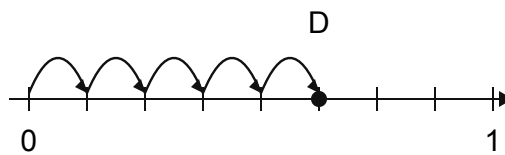
C =  $\frac{1}{2}$ ; divide the whole in half and mark the first half-length.

Fraction number line (Wholes)

**PRACTICE 4**

D =  $\frac{5}{8}$ ; five consecutive eighth-length hops from 0.

Fraction number line (Wholes)

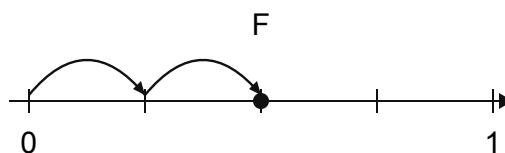
**PRACTICE 5**

E =  $\frac{5}{6}$ ; each equal length is  $\frac{1}{6}$ .

**PRACTICE 6**

F =  $\frac{2}{4}$ ; mark the midpoint after two quarter-length hops.

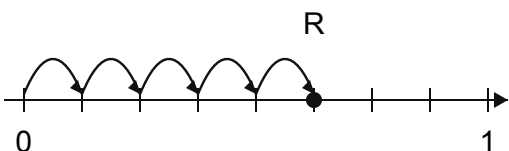
Fraction number line (Wholes)



### APPLY IT 1

$R = 5/8$  of the trail. Five equal lengths of  $1/8$  end at  $5/8$ .

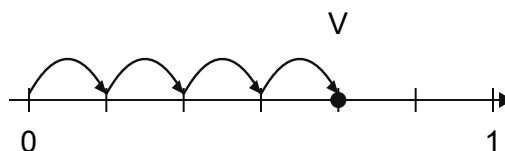
Fraction number line (Wholes)



### APPLY IT 2

$V = 4/6$  of the routine. Each block is  $1/6$  of the same routine; four blocks end at  $4/6$ .

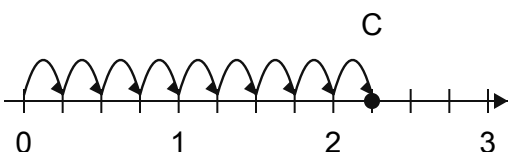
Fraction number line (Wholes)



### CHALLENGE

$C = 9/4$ . Eight fourths reach 2; one more fourth ends past 2.

Fraction number line (Wholes)



### TEACHER NOTES

Check equal lengths, hops starting at 0, the counted number of spaces, and the labeled endpoint. Students need not simplify fractions; accept equivalent values except Practice 6 explicitly requests fourths. In the challenge, preserve the same quarter-length size across all three wholes. The blank construction axes intentionally show no completed student answers.