

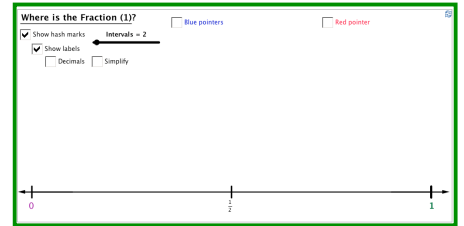
Name: _____
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Exploration: Where is the Fraction?

This exploration incorporates the use of a number line to deepen understanding of fraction concepts. During the activity you will explore the location of fractions on a number line as well as their relationship to other common fractions.

Part I.

- Launch the *“Where is the Fraction? (1)”* applet. This applet shows a number line from 0 to 1.
 - Notice the **Show hash marks** checkbox is checked
 - The **Intervals** slider is set to 2.
 - Check the **Show labels** checkbox.



- Move the **Intervals** slider to match each number line below.
 - Label each hash mark with the appropriate fraction

A) Intervals 2

B) Intervals 3

C) Intervals 4

D) Intervals 5

E) Intervals 6

F) Intervals 7

G) Intervals 8

H) Intervals 9

I) Intervals 10

Each item consists of a horizontal number line from 0 to 1. The number 0 is on the left and 1 is on the right. The number line is divided into equal intervals by vertical tick marks. The number of intervals is indicated by the 'Intervals' label to the left of the line. The tick marks are currently unlabeled.

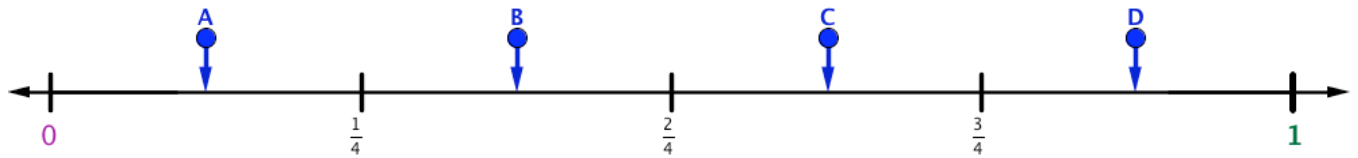


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Part II.

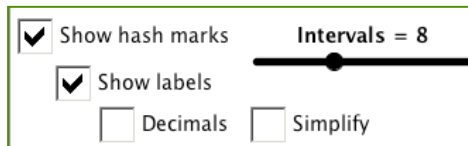
1. Predict the value of the fractions located at points A, B, C, and D.



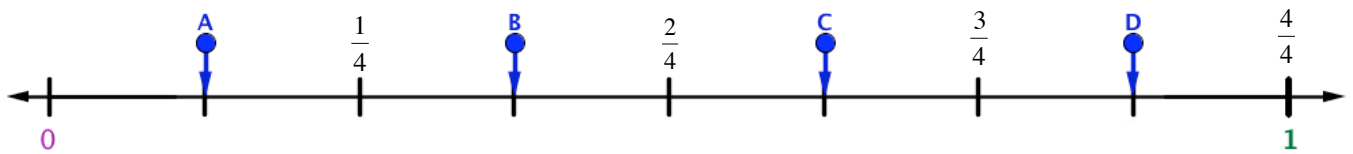
- a. Draw additional *marks half way between the hash marks* shown. (Below A, B, C, and D.)
- b. How many intervals are there now? (intervals are the spaces between the hash marks)

2. Go to the “*Where is the Fraction? (I)*” applet to check your predictions

a. Set the applet up as follows:



b. Label the fractions below each hash mark on the number line.



- b. What fraction is located half way between 0 and $\frac{1}{4}$?
- c. What fraction is located half way between $\frac{1}{4}$ and $\frac{2}{4}$?
- d. What fraction is located half way between $\frac{2}{4}$ and $\frac{3}{4}$?
- e. What fraction is located half way between $\frac{3}{4}$ and 1 ?
- f. There are many fraction names for every location on the number line. (We refer to them as equivalent fractions.) Give two fraction names for the point half way between 0 and 1.
- g. Circle pairs of *equivalent fractions* on the number line above (two fractions that are at the same hash mark on the number line)

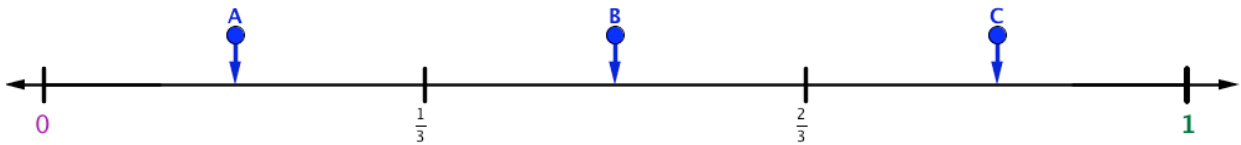


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Part III.

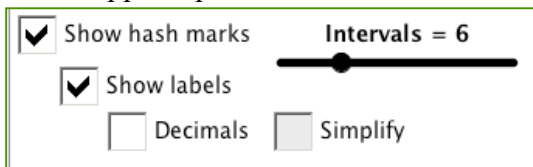
1. Predict the value of the fractions located at points A, B and C.



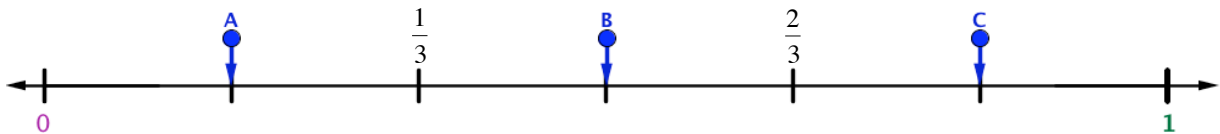
- a. Draw additional *marks half way between the hash marks* shown. (Below A, B and C.)
- b. How many intervals are there now? (intervals are the spaces between the hash marks)

2. Go to the “*Where is the Fraction? (1)*” applet to check your predictions.

a. Set the applet up as follows:



b. Label the fractions below each hash mark on the number line.



- c. What fraction is located half way between 0 and $\frac{1}{3}$?
- d. What fraction is located half way between $\frac{1}{3}$ and $\frac{2}{3}$?
- e. What fraction is located half way between $\frac{2}{3}$ and 1 ?
- f. Circle pairs of *equivalent fractions* on the number line above.
(two fractions that are at the same hash mark on the number line)
- g. Check the *Simplify* checkbox and you will see the fractions simplified. Simplify

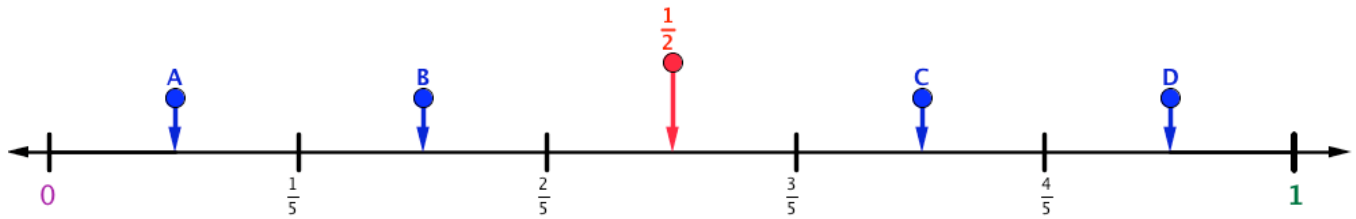


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Part IV.

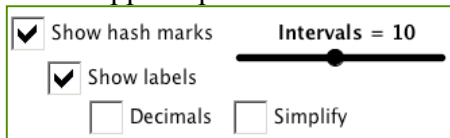
1. Predict the value of the fractions located at points A, B, C and D.



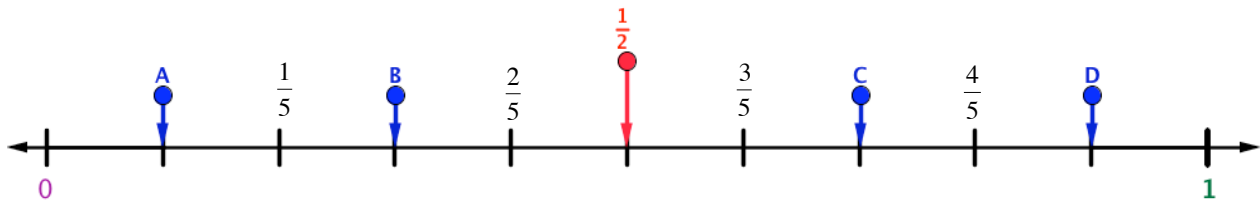
- a. Draw additional *marks half way between the hash marks* shown.
(Below A, B, C and D including between $\frac{2}{5}$ and $\frac{3}{5}$)
- b. How many intervals are there now? (intervals are the spaces between the hash marks)

2. Go to the “*Where is the Fraction? (1)*” applet to check your predictions.

a. Set the applet up as follows:



b. Label the fractions below each hash mark on the number line.



- c. What fraction is located half way between 0 and $\frac{1}{5}$?
- d. What fraction is located half way between $\frac{1}{5}$ and $\frac{2}{5}$?
- e. What fraction is located half way between $\frac{2}{5}$ and $\frac{3}{5}$?
- f. What fraction is located half way between $\frac{3}{5}$ and $\frac{4}{5}$?
- g. What fraction is located half way between $\frac{4}{5}$ and 1 ?
- h. Circle pairs of equivalent fractions (two that are at the same location on the number line.)

