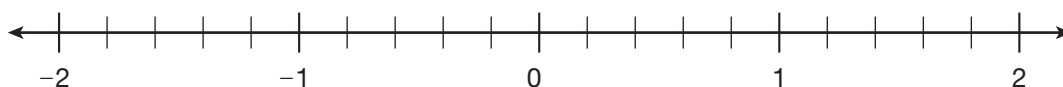


Lesson 2: Rational Numbers

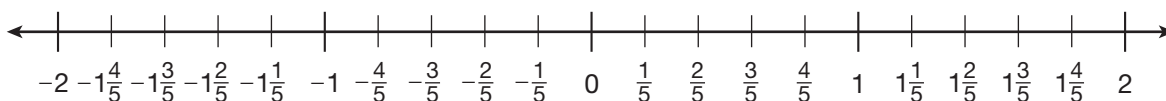
A **rational number** is any number that can be expressed as a fraction in the form $\frac{a}{b}$. For example, $-\frac{2}{5}$, $\frac{1}{8}$, and $\frac{20}{1}$ are all rational numbers. You can write and find rational numbers on a horizontal number line.

Example

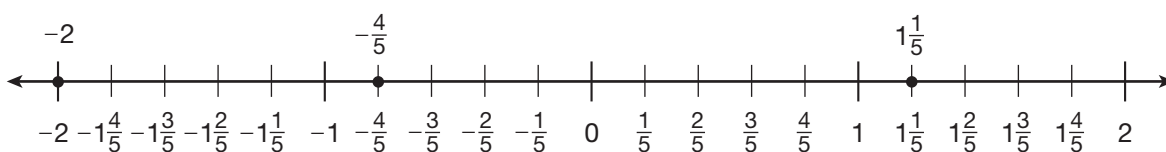
Write -2 , $1\frac{1}{5}$, and $-\frac{4}{5}$ in their correct places on the number line.



First, you need to figure out what each mark on the number line represents. On the number line above, there are 5 marks from one integer to the next. Therefore, each mark represents $\frac{1}{5}$. You can consider each mark as $\frac{1}{5}$ greater than the mark to the left. See below.

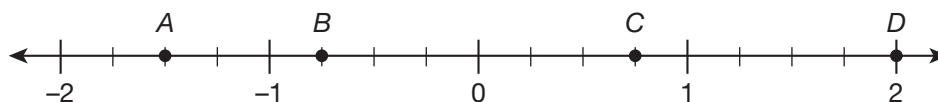


Now you can write -2 , $1\frac{1}{5}$, and $-\frac{4}{5}$ on the number line.



Example

What numbers are represented by A , B , C , and D on the following number line?



There are 4 tick marks from one integer to the next. Therefore, each mark represents $\frac{1}{4}$. Now you can figure out what rational numbers A , B , C , and D represent.

$$A: -1\frac{2}{4} \text{ or } -1\frac{1}{2}$$

$$B: -\frac{3}{4}$$

$$C: \frac{3}{4}$$

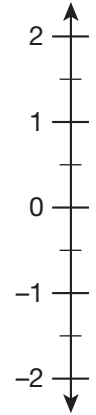
$$D: 2$$

You can write and find rational numbers on a vertical number line.

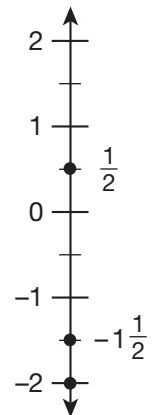
▶ Example

Write -2 , $-1\frac{1}{2}$, and $\frac{1}{2}$ in their correct places on the number line.

First, you need to figure out what each mark on the number line represents. On the number line to the right, there are 2 marks from one integer to the next. Therefore, each mark represents $\frac{1}{2}$. You can consider each mark as $\frac{1}{2}$ greater than the mark below it.



Now you can write -2 , $-1\frac{1}{2}$, and $\frac{1}{2}$ on the number line.



▶ Example

What numbers are represented by A , B , C , and D on the number line to the right?

There are 3 tick marks from one integer to the next. Therefore, each mark represents $\frac{1}{3}$. Now you can figure out what rational numbers A , B , C , and D represent.

$$A: 1\frac{2}{3}$$

$$B: 1$$

$$C: -\frac{1}{3}$$

$$D: -1\frac{2}{3}$$

