

Lesson 7-2

Reinforce Understanding

Represent Rational Numbers and Their Opposites on the Number Line

I can place rational numbers, including fractions and decimals, on a number line.

Worked model

A tree trunk rises 1.8 meters above the ground. Its taproot reaches the opposite value. Plot both on a vertical number line.

1. The ground is 0. Above the ground is positive; below the ground is negative.
2. The height is 1.8, so the root value is its opposite: -1.8
3. Between each pair of integers, mark ten equal parts so you can count tenths.
4. Plot 1.8 eight tenths above 1, and plot -1.8 eight tenths below -1 .

Answer: The trunk is 1.8 m and the root is -1.8 m; both sit 1.8 units from 0.

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Match each fraction to its decimal equivalent.

Write the letter of the matching item on each line.

1. _____ $1/2$
2. _____ $-3/4$
3. _____ $1\ 1/4$
4. _____ $-2\ 1/2$
5. _____ $3/10$
6. _____ $-1/5$

- A 0.5
- B -0.75
- C 1.25
- D -2.5
- E 0.3
- F -0.2

2. Plot these rational numbers: -1, 0.5, -0.5, 1, -1.5

Mark and label each value on the number line.

Show your thinking