Answers and talk notes

Represent Rational Numbers and Their Opposites on the Number Line

What your student is learning

Tonight we place rational numbers — fractions and decimals — on a number line, not just integers.

Answers

Ask your student to explain before you look.

1. **B.** 2 and 3. 2.5 is halfway between 2 and 3.
2. **D.** −5 and −4. −4.5 is halfway between −5 and −4.
3. **B.** 0.75. Each part is 0.25, so the 3rd mark is 0.75, which is 3/4.
4. **A.** −2.5. Halfway between −3 and −2 is −2.5.
5. **C.** −2.5. 5/2 means 5 ÷ 2 = 2.5, and the sign stays negative, so −2.5.
6. **A.** −3/4. Going toward −1 means negative, so 3/4 of the way is −3/4.

Talk about it

Which two integers is it between? How many equal parts do you split the space into?

Home mission

Lay three coins in a row, going left from your hand. Call them 0, −1 and −2. Ask your student where −1.5 goes. Slide a fork there. How did your student decide?

When they are stuck, ask

- Which two integers does this number sit between?
- Into how many equal parts should we split that space?
- Can you say this number another way, as a fraction or a decimal?

Try not to say

- Fractions and decimals do not belong on a number line.
- Just put -2.5 right on top of the -2.
- The dots between integers do not have to be evenly spaced.