Answers and talk notes

Understand Absolute Value of Rational Numbers

What your student is learning

Tonight we find the absolute value of a rational number — a whole number, a fraction, or a decimal — as its distance from zero.

Answers

Ask your student to explain before you look.

1. **B.** 9. −9 is 9 units from 0, so |−9| = 9.
2. **C.** 12. 12 is 12 units from 0, so |12| = 12.
3. **A.** 3.5. −3.5 is 3.5 units from 0, so |−3.5| = 3.5.
4. **C.** 3/4. −3/4 is 3/4 of a unit from 0, so |−3/4| = 3/4.
5. **D.** The diver is 20 feet from sea level. The diver is 20 feet from sea level, because |−20| = 20.
6. **A.** −8. |−8| = 8 is more than 5, 2 and 7, so −8 is farthest from 0.

Talk about it

How far is this number from 0? Can a distance ever be negative?

Home mission

Pick a doorway as zero. Take 4 steps left of it and say, "I am at −4." Ask your student: how far from zero am I? Then take 4 steps right and ask again.

When they are stuck, ask

- How far is that number from zero?
- Can a distance ever be negative?
- What is the opposite of this number?

Try not to say

- Absolute value just erases the minus sign.
- |−6| can be negative sometimes.
- The number line is not needed here.