# Answers and talk notes

Determine Distance on the Coordinate Plane

### What your student is learning

Tonight we find the distance between two points on the grid when they share a row or a column. We use absolute value (distance from zero).

## Answers

Ask your student to explain before you look.

1. **B.** The y-coordinates. The y-coordinates are the same: both points have y = 5.
2. **A.** 5. Both x-values are positive, so subtract: 6 – 1 = 5.
3. **C.** 7. |–4| = 4 and |3| = 3, so 4 + 3 = 7.
4. **D.** 7. –2 and 5 are on opposite sides of 0, so add: 2 + 5 = 7.
5. **B.** 6. Both y-values are negative, so subtract: 9 – 3 = 6.
6. **A.** 8. The y-values are on opposite sides of 0, so add: 5 + 3 = 8.

### Talk about it

Which coordinate is the same? Are the other coordinates on the same side of 0 or opposite sides?

### Home mission

Pick one floor tile as (0, 0). Stand 3 tiles left of it. Have your student stand 4 tiles right of it, on the same row. Ask: how many tiles apart are you? Add or subtract? Why?

### When they are stuck, ask

- Are the two points on the same side of zero, or opposite sides?
- How far is each number from zero? Let's find both absolute values.
- Do the points share a row or a column? That tells us which numbers to use.

### Try not to say

- Just subtract the two numbers no matter what their signs are.
- Distance can be negative if one point is below zero.
- You always have to count every single square to find distance.