Name_____ Date_____ Period_____

LESSON 7-3 · SESSION 2 · PRACTICE · FORM B

Absolute Value as Total Distance

Learning target – I can use absolute value to find the total distance between a negative and a positive reading. · 6.NS.C.7c

REMEMBER

- **Opposite sides of 0**: add the absolute values. From −8 to 3: 8 + 3 = 11.
- **Same side of 0**: subtract the smaller absolute value from the larger. From −12 to −5: 12 − 5 = 7.
- A distance is **never negative**. Sketch a number line to see where 0 is.

WORKED EXAMPLE

How far is it from −8 to 3 on a number line?

Step 1 0 is between −8 and 3, so they are on opposite sides.

Step 2 |−8| = 8 and |3| = 3.

Step 3 Add the distances: 8 + 3 = 11.

Answer **11 units**

WORDS **absolute value** *(valor absoluto)* · **distance** *(distancia)* · **opposite sides** *(lados opuestos)*

PRACTICE

show your work · label units

1. Find the distance between each pair of numbers.

a. −18 and 5 ____

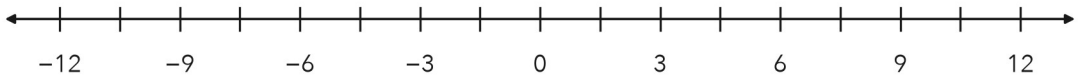
b. 7 and 25 ____

c. −20 and −6 ____

d. −8 and 3 ____

2. **Freezer Thermometer.** A freezer read −10.5 degrees before defrosting and 7.5 degrees after. Zero is the freezing point of water.

Hint *Zero is between the readings, so add.*



a. Plot both readings. Absolute values: Before ___ After ___

b. Find the total change. _____ degrees

3. **Garage Elevator.** An elevator goes from floor −6 up to floor 8. How many floors does it travel?

   Hint *Count 6 floors up to 0, then 8 more.*

   Show your work.

   Answer_____ floors

4. **Drone Climb.** A drone climbs from 8 m above the ground to 23 m above the ground. How far did it climb?

   Hint *Both heights are above 0, so subtract.*

   Show your work.

   Answer_____ m

5. **Peak and Trench.** A peak rises 1.8 km above the sea surface. A trench floor lies 4.7 km below the sea surface. Find the vertical distance from the trench floor to the peak.

   Answer_____ km

6. **Pump Move.** A well pump moved from −12 m to −47 m. Find the distance it moved. Why do you not add the absolute values?

   Hint *Both readings are below 0.*

   Show your work.

   Answer_____ m

7. **Club Balance.** A club account moved from −48 dollars in May to 27 dollars in June. Find the total change.

   Show your work.

   Answer_____ dollars

8. **Mountain and Valley.** Trail 1 starts at −150 m in a valley and climbs to a peak at 280 m. Trail 2 runs from 60 m up to 280 m.

   a. Total climb of Trail 1: _____ m

   b. Total climb of Trail 2: _____ m

   c. Why is Trail 1 longer if both end at 280 m? _____

FIND THE ERROR

explain the mistake, then fix it

9. Malik's Work. A lift moves from floor −7 to floor 10. Malik wrote: $|10| - |-7| = 10 - 7 = 3$ floors. Explain his mistake. Then find the correct distance.

TEST PRACTICE

choose the best answer

10. The distance from 8 to 23 is –

A 31 **B** 15 **C** −15 **D** 23

11. The distance from −6 to 4 is –

A 2 **B** −10 **C** 10 **D** 24

SELF-CHECK CODE

find your answer · copy its letter into that problem's box · spell a math word

75 U	15 S	18 A	6.5 O	14 B	220 E	35 L	21 Z	430 T	59 Q

#2b	#3	#4	#5	#6	#7	#8a	#8b

CHECK YOURSELF ☐ I can do this on my own ☐ I need a little help ☐ I have a question about #___