Name_____ Date_____ Period_____

LESSON 7-6 · SESSION 2 · PRACTICE · FORM B

Comparing Distances on the Plane

Learning target – I can decide whether to add or subtract to find a distance, then compare two distances. · 6.NS.C.8

REMEMBER

- Find **each** distance first. Then compare the two numbers.
- Changing coordinates with **opposite signs**: add. **Same sign**: subtract.
- With a **scale**, change both distances to real units before you compare. A distance is never negative.

WORKED EXAMPLE

Jo walks from (−3, 10) to (−3, 2). Sam walks from (6, −8) to (−7, −8). Each unit is 1 block. Who walks farther?

Step 1 Jo: same x, both positive, so 10 − 2 = 8 blocks.

Step 2 Sam: same y, opposite signs, so 6 + 7 = 13 blocks.

Answer **Sam walks farther, by 13 − 8 = 5 blocks.**

WORDS **distance** *(distancia)* · **quadrant** *(cuadrante)* · **compare** *(comparar)*

PRACTICE

show your work · label units

1. Add or subtract? Find each distance.

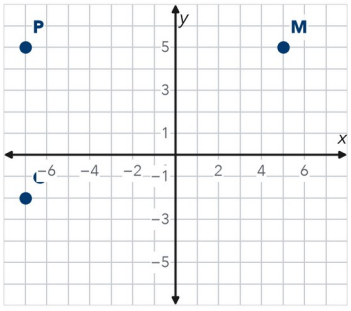
a. (4, −2) to (4, −13) _____

b. (4, −2) to (4, 8) _____

c. (−3, 2) to (6, 2) _____

d. (7, −9) to (7, −1) _____

2. **Nature Center Map.** The map shows a pond (P), a meadow (M) and a cabin (C). Each grid unit stands for 10 meters.



a. Pond to Meadow _____ m

b. Pond to Cabin _____ m

c. Which trip is longer? By how many meters? _____

3. **Two Riders.** From (−8, 4), Rosa rides to (−8, −7) and Kofi rides to (6, 4). Each unit is 1 block. Who rides farther, and by how much?

Hint *Each ride keeps one coordinate. Check the signs of the other one.*

Show your work.

By_____

4. Partner Point. Point T is at (−3, 14). Point U is 20 units directly below T. Name point U.

Hint *Moving down changes only y: 14 − 20.*

Show your work.

U = _____

5. Place the Stop. Point N is at (12, −4). Point M is 18 units directly to the left of N. Name point M.

Hint *Moving left changes only x: 12 − 18.*

Show your work.

M = _____

6. Two Hikes. Mei hikes from (−10, 13) to (−10, 4). Andre hikes from (−3, −14) to (11, −14). Each unit is 1 km. Who hikes farther, and by how much?

Show your work.

By _____

7. Two Walks. From (3.25, 4.75), Ana walks to (3.25, −2.25) and Ben walks to (3.25, 9.75). Who walks farther, and by how much?

Hint *Decimals work the same way. Check the signs of the y-values.*

Show your work.

By _____

8. Delivery Routes. A depot is at (0, 0). Stop 1 is at (0, 11), Stop 2 is at (0, −8) and Stop 3 is at (0, 5).

a. Find the distance from the depot to each stop. _____

b. Order the stops from closest to farthest. _____

c. Find the distance from Stop 1 to Stop 2. _____ units

FIND THE ERROR

explain the mistake, then fix it

9. Diego's Work. To find the distance from (−6, 2) to (9, 2), Diego wrote 9 − 6 = 3 units. Explain his mistake. Then find the correct distance.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. Two coordinates on opposite sides of zero call for –

A subtraction **B** addition **C** division **D** doubling

11. The distance from (−7, 0) to (7, 0) is –

A 0 units **B** 7 units **C** 14 units **D** 49 units

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

(30, −4) Z	2 R	3 M	19 S	1 X	(−3, −6) E	5 E	(−3, 34) Q	2.5 J	(−6, −4) T

#3	#4	#5	#6	#7	#8c

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