Name_____ Date_____ Period_____

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

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.

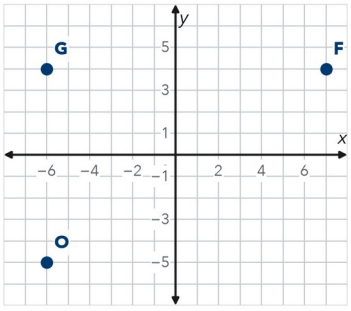
a. (5, −3) to (5, −15) _____

b. (5, −3) to (5, 10) _____

c. (−4, 1) to (6, 1) _____

d. (3, −8) to (3, −2) _____

2. **Campus Map.** The map shows a gym (G), a field (F) and an office (O). Each grid unit stands for 10 meters.



a. Gym to Field _____ m

b. Gym to Office _____ m

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

3. **Two Riders.** From (−9, 5), Tariq rides to (−9, −8) and Jada rides to (6, 5). 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 (−4, 16). Point U is 22 units directly below T. Name point U.

Hint *Moving down changes only y: 16 − 22.*

Show your work.

U = _____

5. Place the Stop. Point N is at (13, −5). Point M is 20 units directly to the left of N. Name point M.

Hint *Moving left changes only x: 13 − 20.*

Show your work.

M = _____

6. Two Hikes. Kendra hikes from (−11, 12) to (−11, 3). Owen hikes from (−2, −15) to (10, −15). Each unit is 1 km. Who hikes farther, and by how much?

Show your work.

By _____

7. Two Walks. From (4.25, 5.75), Ana walks to (4.25, −3.25) and Ben walks to (4.25, 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, 12), Stop 2 is at (0, −9) and Stop 3 is at (0, 4).

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. Ines's Work. To find the distance from (−8, 3) to (4, 3), Ines wrote 8 − 4 = 4 units. Explain her mistake. Then find the correct distance.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. Two coordinates on the same side of zero call for –

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

11. A distance can never be –

A zero **B** a decimal **C** negative **D** greater than 10

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

2 L	1 J	1.5 X	(33, −5) Z	3 G	21 R	(−4, 38) Q	(−4, −6) O	5 E	(−7, −5) N

#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 #___