Name_____ Date_____ Period_____

LESSON 7-7 · SESSION 1 · PRACTICE · FORM B

Polygons and Perimeter on the Plane

Learning target – I can find the perimeter and area of a polygon drawn on the coordinate plane. · 6.G.A.3

REMEMBER

- A **polygon** is a closed shape with straight sides. Its corners are **vertices**.
- Find each side from matching coordinates: opposite signs **add**, same sign **subtract**.
- **Perimeter** = add all the sides. **Area** of a rectangle = length × width.

WORKED EXAMPLE

A rectangle has vertices (−2, 3), (5, 3), (5, −2) and (−2, −2). Each unit is 1 meter. Find its perimeter.

Step 1 Top side: same y, so 2 + 5 = 7 m.

Step 2 Right side: same x, so 3 + 2 = 5 m.

Step 3 Add all four sides: 7 + 5 + 7 + 5 = 24.

Answer **Perimeter = 24 m**

WORDS **polygon** *(polígono)* · **vertex** *(vértice)* · **perimeter** *(perímetro)*

PRACTICE

show your work · label units

1. A rectangle has vertices (−5, 3), (5, 3), (5, −4) and (−5, −4). Find each measure.

a. side (−5, 3) to (5, 3) ____

b. side (5, 3) to (5, −4) ____

c. perimeter ____

d. area ____

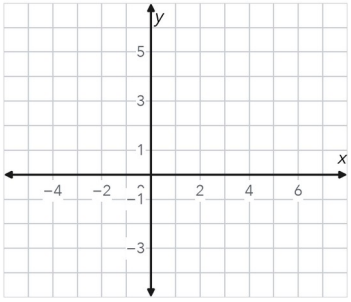
2. **Garden Plot.** A garden plot has corners at (−5, 5), (7, 5), (7, −4) and (−5, −4). Each unit is 1 meter.

a. Plot the corners and connect them.

b. Top side _____ m

c. Left side _____ m

d. Perimeter _____ m



3. **Dog Run.** Dog run vertices: (−6, 9), (10, 9), (10, −3) and (−6, −3). Each unit is 1 meter. Find the perimeter.

Hint *Find one side across and one side up and down.*

Show your work.

Answer_____ m

4. Missing Vertex. Three corners of a rectangle are (−3, 8), (7, 8) and (7, 2). Name the fourth corner.

Hint *Match x with one corner and y with another.*

Show your work.

Corner_____

5. Right Triangle. A right triangle has vertices (−4, 3), (6, 3) and (6, −5). Find its area.

Hint *Area = 1/2 × base × height.*

Show your work.

Answer_____ sq. units

6. Deck Area. Deck vertices: (−5, −1), (8, −1), (8, −7) and (−5, −7). Each unit is 1 yard. Find its area.

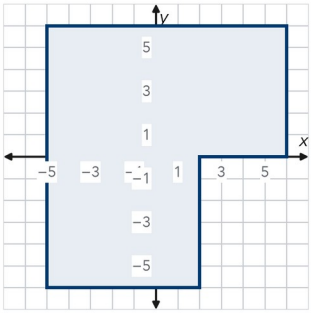
Hint *Both y-values are negative, so subtract to find the height.*

Show your work.

Answer_____ sq. yd

7. Mural Outline. The mural outline has vertices (−5, 6), (6, 6), (6, 0), (2, 0), (2, −6) and (−5, −6). Each unit is 1 foot. Find the perimeter.

Hint *Go around in order. Each side joins two vertices that share a coordinate.*



Show your work.

Answer_____ ft

8. Fence and Sod. A plot has vertices (−5, 6), (9, 6), (9, −3) and (−5, −3). Fencing costs $6 per unit. Sod costs $3 per square unit.

a. Find the length and the width. _____

b. Find the perimeter and the cost of fencing. _____

c. Find the area and the cost of sod. _____

FIND THE ERROR

explain the mistake, then fix it

9. Bri's Work. For a side from (−9, 2) to (6, 2), Bri wrote the length as 9 − 6 = 3 units. Explain her mistake. Then find the correct length.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. A rectangle with sides 9 units and 4 units has a perimeter of –

A 13 units **B** 26 units **C** 36 units **D** 18 units

11. A rectangle with sides 9 units and 4 units has an area of –

A 13 square units **B** 26 square units **C** 36 square units **D** 72 square units

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

40 R	46 E	80 Z	78 N	$138 J	56 C	104 X	(−3, 2) O	$276 R	28 Q

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

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