Name_____ Date_____ Period_____

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

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 (−3, 4), (6, 4), (6, −2) and (−3, −2). Find each measure.

a. side (−3, 4) to (6, 4) ____

b. side (6, 4) to (6, −2) ____

c. perimeter ____

d. area ____

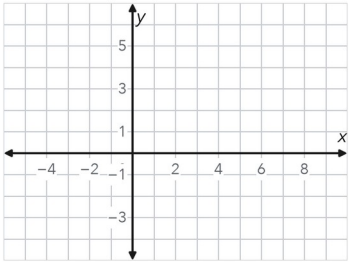
2. **Garden Plot.** A garden plot has corners at (−4, 6), (9, 6), (9, −3) and (−4, −3). Each unit is 1 meter.

a. Plot the corners and connect them.

b. Top side _____ m

c. Left side _____ m

d. Perimeter _____ m



3. **Dog Run.** Dog run vertices: (−7, 10), (11, 10), (11, −1) and (−7, −1). 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 (−2, 9), (8, 9) and (8, 1). 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 (−5, 2), (7, 2) and (7, −5). Find its area.

Hint *Area = 1/2 × base × height.*

Show your work.

Answer_____ sq. units

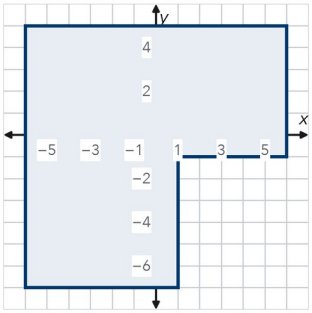
6. Deck Area. Deck vertices: (−6, −2), (7, −2), (7, −9) and (−6, −9). Each unit is 1 yard. Find its area.

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 (−6, 5), (6, 5), (6, −1), (1, −1), (1, −7) and (−6, −7). 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 (−6, 5), (9, 5), (9, −4) and (−6, −4). Fencing costs $7 per unit. Sod costs $2 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. Jorge's Work. For a side from (−5, 4) to (3, 4), Jorge wrote the length as 5 − 3 = 2 units. Explain his mistake. Then find the correct length.

TEST PRACTICE

choose the best answer

10. A rectangle with sides 8 units and 5 units has a perimeter of –

A 13 units **B** 26 units **C** 40 units **D** 80 units

11. A rectangle with sides 8 units and 5 units has an area of –

A 13 square units **B** 26 square units **C** 40 square units **D** 80 square units

SELF-CHECK CODE

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

143 J	$168 K	29 Q	(–2, 1) E	58 V	42 R	48 E	$336 X	91 T	84 Z

#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 #___