Name_____ Date_____ Period_____

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

Designing Polygons with Scale

Learning target – I can use a scale to find a missing dimension of a figure on the coordinate plane. · 6.G.A.3

REMEMBER

- A **scale** tells how long one grid unit is in real life: 1 unit = 4 m.
- Change each side to real length **first** (units × scale). Then find perimeter or area.
- Missing side = **area ÷ known side**. Area uses square units (ft², m²).

WORKED EXAMPLE

A plan uses 1 unit = 10 m. A field must cover 2,400 m² and is 4 units wide. Find its real length.

Step 1 Real width: 4 × 10 = 40 m.

Step 2 Real length: 2,400 ÷ 40 = 60 m.

Step 3 On the plan: 60 ÷ 10 = 6 units long.

Answer **60 m long (6 units on the plan)**

WORDS **scale** *(escala)* · **area** *(área)* · **dimensions** *(dimensiones)*

PRACTICE

show your work · label units

1. On a plan, 1 grid unit = 8 ft. Change each measure.

a. 5 units = ____ ft

b. 7 units = ____ ft

c. 48 ft = ____ units

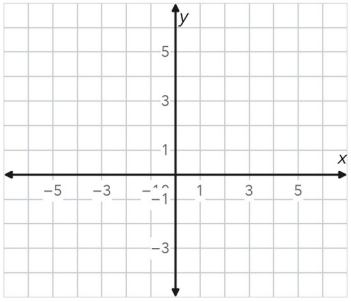
d. 96 ft = ____ units

2. **Courtyard.** Three corners of a rectangular courtyard are (−6, 5), (6, 5) and (6, −4). Each unit is 10 feet.

a. Plot the corners. Name the fourth corner. _____

b. Width and height in feet _____

c. Area _____ ft²



3. **Parking Pad.** Parking pad corners: (−6, 4), (6, 4), (6, −5) and (−6, −5). Each unit is 2 feet. Find the area in square feet.

Hint *Change both sides to feet before you multiply.*

Show your work.

Answer_____ ft²

4. Using the Scale. On a plan, 1 unit = 20 feet. A rectangle is 5 units by 3 units. Find the real perimeter.

Show your work.

Answer_____ ft

5. Missing Dimension. A rectangular lot must cover 4,200 ft². One side is 70 ft. Find the other side.

Hint *Divide the area by the known side.*

Show your work.

Answer_____ ft

6. Fence Cost. Yard corners: (−5, 4), (7, 4), (7, −3) and (−5, −3). Each unit is 3 feet. Fencing costs $8 per foot. Find the fence cost.

Hint *Change both sides to feet, add all four, then multiply by 8.*

Show your work.

Cost_____

7. Pen Design. Kofi wants a pen with an area of 360 ft². One side runs from (−3, 5) to (6, 5). Each unit is 2 feet. Find the other side.

Hint *Change the known side to feet first.*

Show your work.

Answer_____ ft

8. Playground Design. A plan uses 1 unit = 10 feet. A playground must cover 4,800 ft². On the plan it is 6 units wide.

a. Real width _____ ft

b. Real length _____ ft

c. Length on the plan _____ units

d. Real perimeter _____ ft

FIND THE ERROR

explain the mistake, then fix it

9. Kenji's Work. A side runs from (−7, 3) to (5, 3). Each unit is 8 feet. Kenji wrote the side length as 12 feet. Explain his mistake. Then find the correct length.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. An area of 900 m² with one side of 30 m has another side of –

A 870 m **B** 30 m **C** 27,000 m **D** 60 m

11. If 1 unit represents 15 meters, then 6 units represent –

A 21 meters **B** 9 meters **C** 90 meters **D** 2.5 meters

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

$912 O	108 Q	800 X	16 J	60 Y	80 T	20 U	320 A	$114 Z	432 L

#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 #___