Name_____ Date_____ Period_____

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

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 = 6 ft. Change each measure.

a. 4 units = ____ ft

b. 9 units = ____ ft

c. 42 ft = ____ units

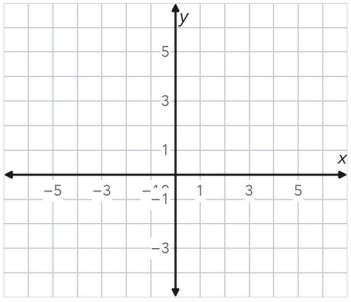
d. 90 ft = ____ units

2. **Courtyard.** Three corners of a rectangular courtyard are (−5, 6), (6, 6) and (6, −3). 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: (−7, 5), (5, 5), (5, −4) and (−7, −4). Each unit is 3 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 = 25 feet. A rectangle is 6 units by 4 units. Find the real perimeter.

Show your work.

Answer_____ ft

5. Missing Dimension. A rectangular lot must cover 30,000 ft². One side is 150 ft. Find the other side.

Hint *Divide the area by the known side.*

Show your work.

Answer_____ ft

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

Hint *Change both sides to feet, add all four, then multiply by 6.*

Show your work.

Cost_____

7. Pen Design. Mara wants a pen with an area of 384 ft². One side runs from (−4, 6) to (8, 6). 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 = 15 feet. A playground must cover 5,400 ft². On the plan it is 8 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. Talia's Work. A side runs from (−3, 4) to (9, 4). Each unit is 6 feet. Talia wrote the side length as 12 feet. Explain her mistake. Then find the correct length.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. An area of 1,200 ft² with one side of 40 ft has another side of –

A 30 ft **B** 1,160 ft **C** 48,000 ft **D** 20 ft

11. If 1 unit represents 20 feet, then 5 units represent –

A 4 feet **B** 25 feet **C** 100 feet **D** 520 feet

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

16 G	20 J	45 N	500 E	972 D	$960 I	$160 Z	32 X	108 Q	200 S

#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 #___