

Mathematics CFA Template 3.MD.8

Pre-Instruction

1. List the Standard. Underline the nouns (what students will know) and highlight the verbs (what student will do):

MD.3.8 **Solve** real world and mathematical problems involving *perimeters of polygons*, including **finding** the perimeter given the *side lengths*, finding an unknown side length, and **exhibiting** *rectangles* with the same *perimeter* and different *areas* or with the same *area* and different *perimeters*.

2. Mathematical Practices

1. Make sense of the problems and persevere in solving them
 2. Reason abstractly and quantitatively.
 3. Construct viable arguments and critique the reasoning of others.
 4. Model with mathematics
 5. Use appropriate tools strategically.
 6. Attend to precision
 7. Look for and make use of structure.
 8. Look for and express regularity and repeated reasoning.
3. I Can Statements – Put learning targets in student friendly terms.

I can determine any of the side lengths when the perimeter and the other side lengths are known.

I can provide examples of rectangles that have the same perimeter but different areas.

I can provide examples of rectangles that have the same area but different perimeters.

Depth of Knowledge of the standard (Highlight the Level of the Learning Target):

Level 1 Recall; Level 2 – Skill/Concept; **Level 3 – Strategic Thinking**; Level 4 – Extended Thinking

4. List the skills students need to know in order to begin this standard:

vocabulary: perimeter, polygon, area

find the unknown side length

5. What type of assessment am I going to write? [selected response (m/c, t/f, y/n, matching, fill in ___) **or** constructed response (**short:** word, phrase, sentence, single problem; **extended:** multi-step operations in math, problem solving)] List the assessment questions.

1. Find the side length of a polygon where the known side lengths are 4,4, and 2 and the perimeter is 12.

2. Draw two rectangular objects that have the same perimeter and different areas. Explain your thinking using words, pictures and numbers.

3. Draw two rectangular objects that have the same area and different perimeters. Explain your thinking using words, pictures and numbers.

6. Scoring Guide

Exceeds Expectations:

Proficient: The student does correctly identify the unknown side length.

Approaching Proficiency:

Not Proficient: The student does not correctly identify the unknown side length.

Exceeds Expectations:

Proficient: The student correctly draws two rectangular objects with the same perimeter and different areas and explains their thinking.

Approaching Proficiency: The student correctly draws the objects but does not explain their thinking.

Not Proficient: The student does not correctly draw the objects and does not explain their thinking.

Exceeds Expectations:

Proficient: The student correctly draws two rectangular objects with the same area and different perimeters and explains their thinking.

Approaching Proficiency: The student correctly draws the objects but does not explain their thinking.

Not Proficient: The student does not correctly draw the objects and does not explain their thinking.

Name _____ Date _____

Power Standard: MD.3.8 **Solve** real world and mathematical problems involving *perimeters of polygons*, including **finding** the perimeter given the *side lengths*, finding an unknown side length, and **exhibiting** *rectangles* with the same *perimeter* and different *areas* or with the same *area* and different *perimeters*.

Formative Assessment 1

Directions: Find the side length of a polygon where the known side lengths are 4 cm, 4cm, and 2cm and the perimeter is 12cm.



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Formative Assessment 2

Grid paper: http://www.teachervision.fen.com/tv/printables/0134356500_M1MUTM02.pdf

http://activityvillage.co.uk/grid_papers.htm

Directions: Using grid paper, draw two rectangular objects that have the same perimeter and different areas. Explain your thinking using words, pictures and numbers.



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Formative Assessment 3

Grid paper: http://www.teachervision.fen.com/tv/printables/0134356500_M1MUTM02.pdf

http://activityvillage.co.uk/grid_papers.htm

Directions: Using grid paper, draw two rectangular objects that have the same area and different perimeters. Explain your thinking using words, pictures and numbers.



