Fence Around Polygons

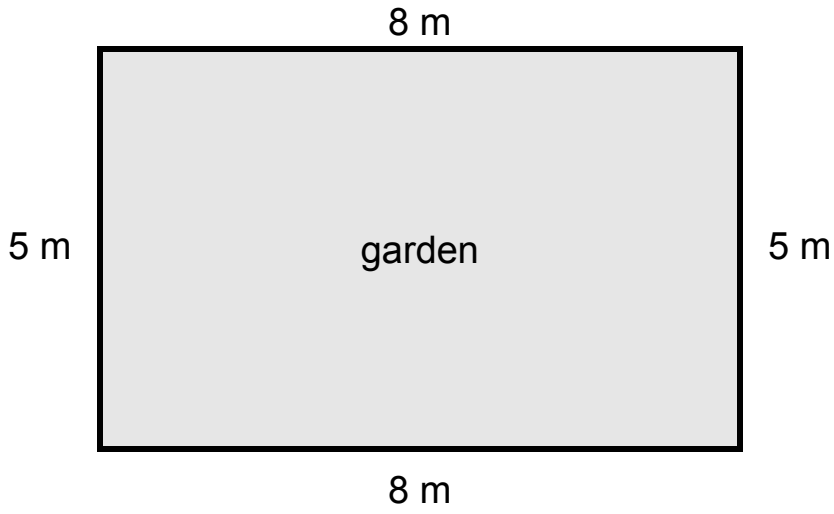
Find a perimeter and find a missing side length

Name: _____ Date: _____

Part 1: Vegetable Garden Fence

Perimeter is the distance all the way around the outside of a shape. Add every side length once.

1. A gardener puts a fence around this rectangular vegetable garden. How many meters of fence are needed?



Show the addition you used. Then write the perimeter.

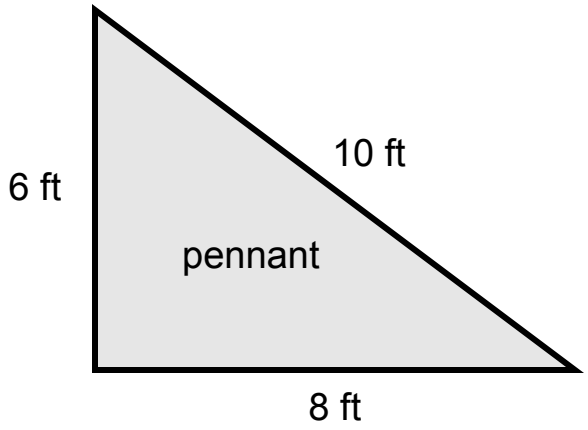
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Part 2: Pennant Border

2. A class adds a border around this triangular pennant. What is the length of the border?



Add all three sides. Show your work and write the perimeter.

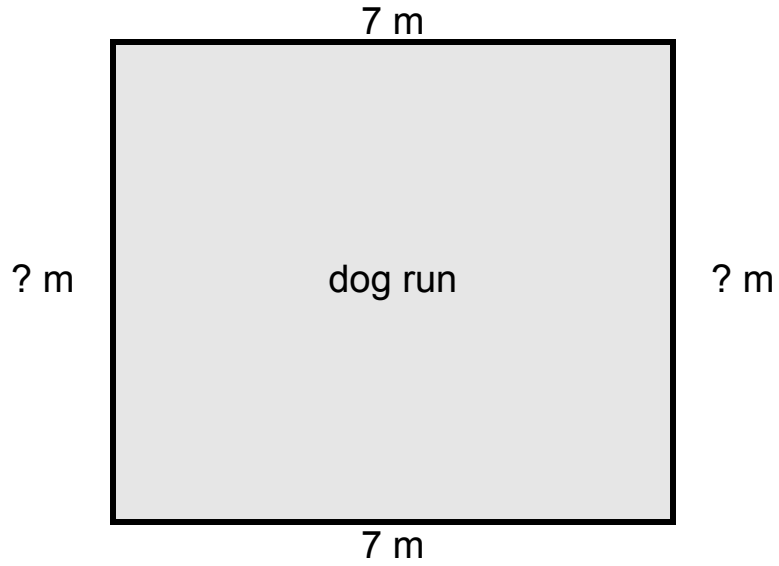
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Part 3: Missing Side

3. A dog-run fence is 26 meters all the way around. The shape is a rectangle. Each long side is 7 meters. How long is each short side?



Use the perimeter of 26 m. Fill in the equation, solve it, and write the missing side length.

Equation workspace
7 + 7 + ____ + ____ = 26
Each short side = _____ m

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Answer Key and Teaching Notes

Answers

1. 8 + 5 + 8 + 5 = 26. The garden needs **26 m** of fence.

2. 6 + 8 + 10 = 24. The pennant border is **24 ft**.

3. 7 + 7 + ? + ? = 26. The two known sides total 14 m, leaving 12 m for two equal short sides. 12 divided by 2 = 6. Each short side is **6 m**. Equivalent equation: 7 + 7 + 6 + 6 = 26.

Materials and setup: Print and supply all student pages, keeping teacher-key pages separate. Students need pencils and may use counters or four craft sticks to trace a perimeter. No ruler is needed because all side lengths are labeled. Display or read the definition of perimeter before students begin.

Teaching script: Say, “Perimeter means the distance around the outside edge. Point to one corner, travel around the edge once, and add each side one time. Do not add the space inside the shape.” For Part 3 say, “A rectangle has opposite sides that are equal. The question marks stand for equal short sides. Use the total distance around the fence to find them.”

Observation method: As students work, look for one-to-one tracking of sides and addition of every outside edge. For item 3, listen for students subtracting the two 7 m sides from 26 m and sharing the remaining length between two equal sides. Prompt, “Which side have you counted? Which sides are equal?” Do not provide the result.

Scoring: 1 point each for the correct perimeter in items 1 and 2 with reasonable addition; 2 points for item 3: 1 point for an equation or correct remaining-length reasoning and 1 point for 6 m. A student who writes 12 m has found the combined length of both short sides but has not answered the side-length question.

Source credit: Skill aligned to NY-3.MD.8.a, “Solve real world and mathematical problems involving perimeters of polygons...” https://lessonmakerpro.com/standards/ny-nextgen-math/ny-3-md-8-a