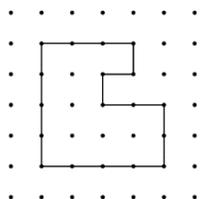


# Activity 1 Assessment

## Determining the Perimeter of Polygons

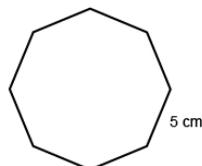
### Using Formulas to Determine Perimeter of Polygons

Uses standard units to measure the perimeter of irregular polygons by adding side lengths.



"The polygon is on 1-cm dot paper. I added the lengths of the sides:  $3\text{ cm} + 4\text{ cm} + 4\text{ cm} + 2\text{ cm} + 2\text{ cm} + 1\text{ cm} + 1\text{ cm} + 1\text{ cm} = 18\text{ cm}$ ; The perimeter of the shape is 18 cm."

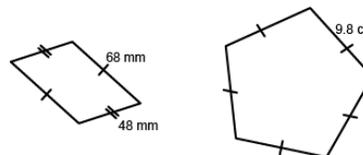
Uses  $P = \#$  of equal sides  $\times$  length of a side to calculate the perimeter of regular polygons.



Regular Octagon

"In a regular octagon, all sides are the same length. I multiply the length of a side by the number of sides:  $P = 8 \times 5\text{ cm} = 40\text{ cm}$ . The perimeter is 40 cm."

Identifies the appropriate formula to determine the perimeter of different polygons.



"The irregular polygon is a parallelogram, so I can use the formula:  $P = 2(a + b)$ :  $2(48\text{ mm} + 68\text{ mm}) = 2(116\text{ mm}) = 232\text{ mm}$ . The pentagon is a regular pentagon, so I can use the formula  $P = 5s$ :  $5 \times 9.8\text{ cm} = 49.0\text{ cm}$ ."

Fluently applies formulas for determining perimeter of polygons to solve problems.

A soccer field is 125 m by 85 m. A football field is about 92 m by 49 m. Which field has the greater perimeter?

"Both fields are rectangular, so I will use the formula for the perimeter of a rectangle:  $P = 2(l + w)$ .

Soccer field:  
 $P = 2(125\text{ m} + 85\text{ m}) = 420\text{ m}$ .

Football field:  
 $P = 2(92\text{ m} + 49\text{ m}) = 282\text{ m}$

The soccer field has the greater perimeter."

### Observations/Documentation