

UNIT 4 - Strategies for Addition & Subtraction

GOAL FOR THE UNIT: "This unit introduces the concept of rounding, which provides students with another strategy to judge the reasonableness of their answers in addition and subtraction strategies. Perimeter provides a context in which students can practice both rounding and addition and subtraction (e.g. estimating the perimeter of a polygon)

Example

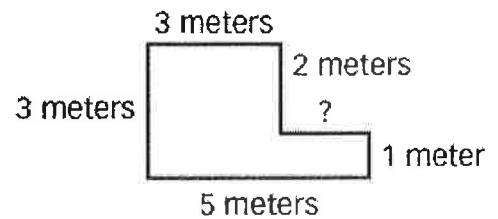
This is a floor plan of the shed that Sean is going to build. The perimeter of the shed is 16 meters. What is the missing side length?

The perimeter is 16 meters. That means that the sum of all the side lengths is 16.

$$5 + 3 + 3 + 2 + 1 + ? = 16$$

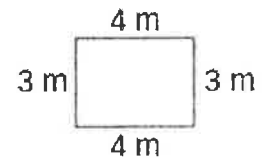
$$14 + ? = 16, \text{ so } ? = 2$$

The missing side length is 2 meters.



- 1 Write an equation to find the perimeter of this rectangle.

$$3 + 3 + 4 + 4 = 14$$



A square has a perimeter of 20 inches. Explain how to find the length of each side.

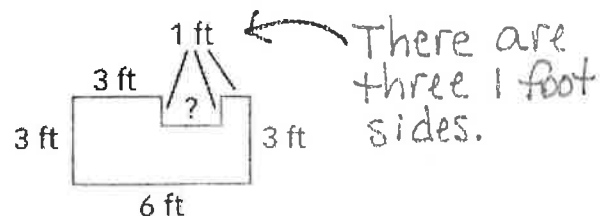
Since a square has 4 sides,
I should divide 20 by 4 to
find each side length.

The perimeter of this shape is 20 feet. Show how to find the missing side length.

$$1 + 1 + 1 + 3 + 3 + 3 + 6 = 18$$

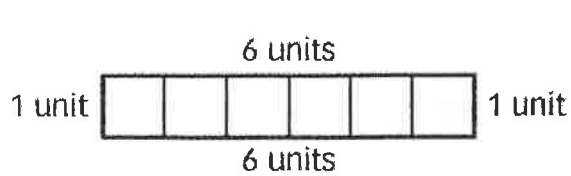
$$20 - 18 = 2$$

The missing side length
is 2 feet.



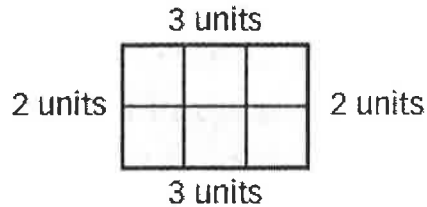
Example

Chang has 12 square tiles. He uses the tiles to make two different rectangles that each have an area of 6 square units. Do these rectangles have the same perimeter?



$$6 + 1 + 6 + 1 = 14$$

perimeter = 14 units

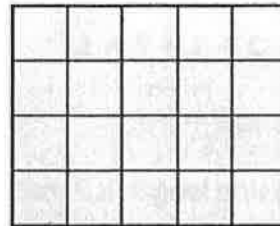
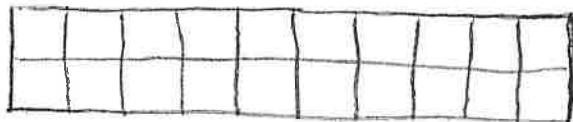


$$3 + 2 + 3 + 2 = 10$$

perimeter = 10 units

Rectangles with the same area can have different perimeters.

Enrique drew the rectangle at the right. Draw another rectangle with the same area but different side lengths. Which rectangle has the greater perimeter?



Enrique's rectangle has a perimeter of 18 units.
My rectangle has a perimeter of 24 units.
Although both rectangles have the same area, my rectangle has a greater perimeter.

Round the following numbers to the nearest 10.

45 50 56 60 89 90
121 120 343 340 489 490

Round the following numbers to the nearest 100.

787 800 948 900 978 1,000 420 400
87 100 43 0 567 600 960 1,000