# USING A RATIO STRIP

In a <u>scale drawing</u>, all lengths are multiplied by the same scale factor. If the scale factor is greater than 1, the figure is expanded, and if the scale factor is between 0 and 1, the figure is reduced in size.

Sometimes the scale in a drawing is described using a ratio. A <u>ratio strip</u> is a double number line where equivalent ratios can be easily identified. You will use the ratio strip to interpret drawings using a <u>scale</u> of 2 cm : 9 ft.

1. Here is a drawing of a garden that was created using the scale 2 cm : 9 ft. Use the ratio strip to determine the actual dimensions and area of the garden.
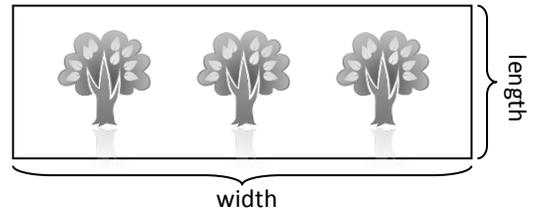
	Drawing dimensions	Drawing area	Garden dimensions	Garden area
Length				
Width				

Use the data from the table above to complete the table below.

		Ratios of measurements drawing : garden	Value of the ratio
2.	**Length**		
3.	**Width**		
4.	**Area**		

5. Consider the ratio used to create the scale drawing (2 cm : 9 ft), and the ratios found in problems 3 and 4 above. How do the values of these ratios compare?

6. Consider the ratio used to create the scale drawing and the ratio of the areas found in problem 5 above. How do the values of these ratios compare?

2 cm   8 cm

2 cm : 9 ft

9 ft   27 ft
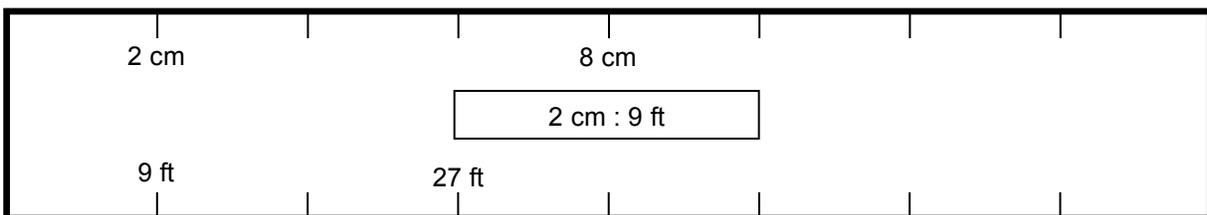
A FLOOR PLAN

Architects often use scale drawings to represent actual building floor plans.
Use the Ratio Strip to measure some scale drawings of rooms and determine their actual dimensions.
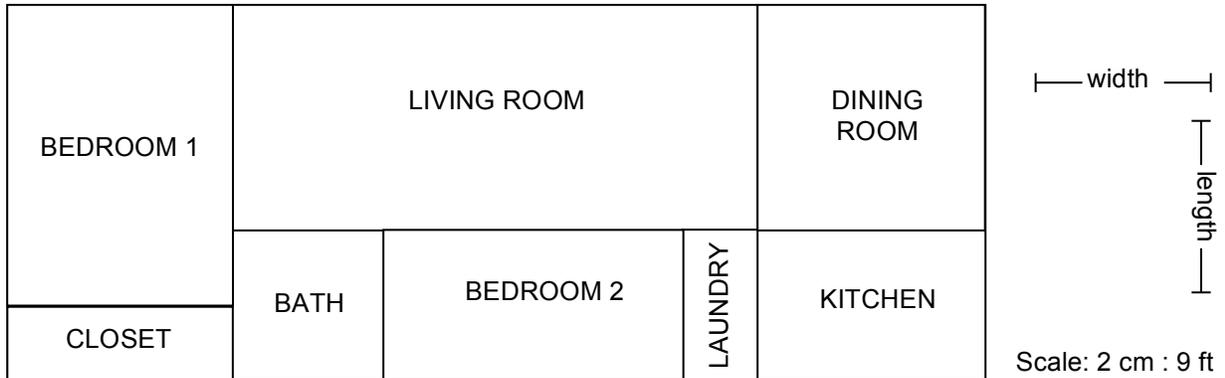
	Room	Drawing length	Drawing width	Actual length	Actual width
1.	Bath	_____ cm	_____ cm	_____ ft	_____ ft
2.	Bedroom 2				
3.	Laundry				
4.	Dining Room	3 cm			
5.	Bedroom 1			18 ft	
6.	Living Room				

7. If the length and width of the dining room in the scale drawing were increased by 2 cm each, what would be the new actual dimensions of the dining room?