

Section 7.2 Math Link

This worksheet will help you with the Math Link on page 271.

You are drawing up plans for a landscape design. You are going to include one of the following design elements, which will be in the shape of a rectangle:

- swimming pool 1 m = 100 cm
- concrete patio 1 cm = 0.01 m
- hockey rink
- beach volleyball pit

The rectangular shape is 2 m longer than twice the width.

How much higher or lower than ground level will your design be? This is the depth you will use. Remember, any centimetre measurements will have to be converted to metres for your calculations.

1. **a)** Write a polynomial to represent the length of the rectangular design.

b) Write a polynomial to represent the width.
2. Write a formula for calculating the base area of your design. Use A for area.
3. Create a formula for calculating the volume of your design. Use V for volume. Use a depth of your choice.
4. Use your formula to calculate the volume of material needed for widths of 2 m, 3 m, 4 m, and 5 m.

Complete the table below. An example, using a width of 1 m, has been done for you.

Width (m)	Length (m)	Area (m ²)	Depth (m)	Volume (m ³)
1	4	4	0.8	$4 \times 0.8 = 3.2$

5. Which width would you prefer for your design element? Why?