HANDOUTS: Patio Layout (2 pages)
Skill Builders: Pythagorean Theorem, Volume, Calculating Area, Rounding

IN THE WORKPLACE: Formulas often used to determine amounts of material required to cover surface of various shapes, such as paint or lumber, or to fill various containers such as foundations and pipes. Accurate calculations minimize waste and save time and money.

1.	A client wants a garden installed in one corner of her new patio. The corner is a right angle. One of
	the sides along the edge of the garden is to be 2 m and the other side along the edge of the
	garden is to be 1.5 m. How long will the third side of the garden be?

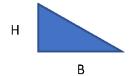
2. The client would like the garden framed with landscaping timbers. What is the total length of timbers that needs to be purchased?

3. The timbers are sold in 8 ft. lengths. How many lengths will need to be purchased to frame the garden?



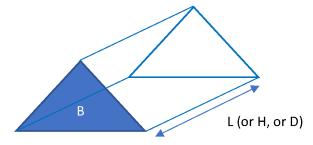
4. Steer manure needs to be ordered to fill the garden from the ground level to the top of the timbers. Manure is ordered in cubic metres. Assume the timbers are 4 x 4 inches and the manure needs to be level with the top of the timbers. How many cubic metres need to be ordered? Round to the nearest hundredth. Recall the concept for area, volume and the conversion ratio provided (1 m = 39.37 in.).

Recall: Area of a triangle = B (base) x H (height) ÷ 2



Recall: Volume of triangular prism = B (base) x L (length)

- where B = triangular area forming the base of a triangular prism;
- where L= the overall length (or height (H) or depth (D)) of the third dimension in the triangular prism.



5. Assume the patio is a rectangle and the shortest side of the garden is 1/6 of the width of the finished patio. The longest side of the patio is 1.5 times the length of the shortest side. Using the graph paper on the next page, draw and label the patio including the new garden. Include information on the scale you use.



