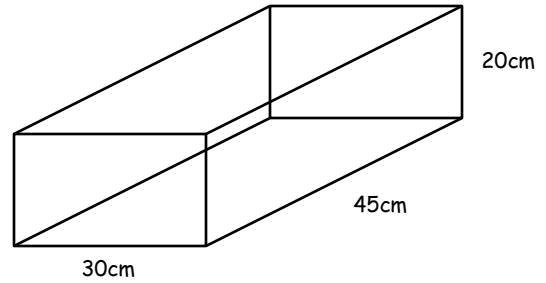
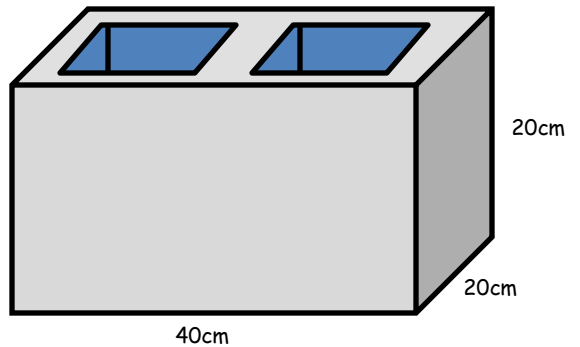


Directions: Solve each word problem. Show any formulas used and express your answers in the specified form.

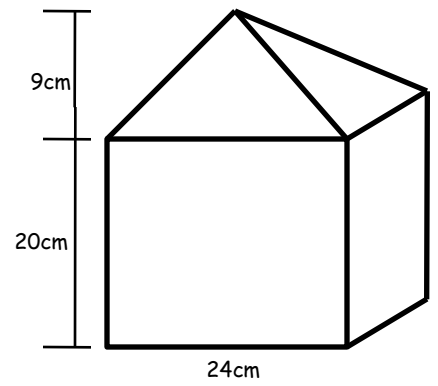
- 1) The container shown has the shape of a rectangular solid. When it is filled with water, the water reaches a height of 20cm (NOTE - this is not the maximum height of the container). After a rock is submerged in the tank, this causes the water level to rise 0.5cm. Find the volume of the rock.



- 2) A cement block has two rectangular holes, which have a length of 12cm and a width of 10cm. Find the weight, to the nearest kilogram, of the cement block shown. Cement weighs  $0.0017\text{kg/cm}^3$ .



- 3) A model of a house is being constructed out of cardboard. There will need to be a base for the house, but the inside of the house will be completely hollow (the square pyramid will not require a base). If the cardboard costs \$0.68 per 100 square centimeters, approximately how much will it cost to construct this model house?



- 4) Water is pouring into a conical (cone-shaped) reservoir at the rate of  $1.8\text{m}^3$  per minute. Find, to the nearest minute, the number of minutes it will take to fill the reservoir. Use  $\pi = 3.14$ .

