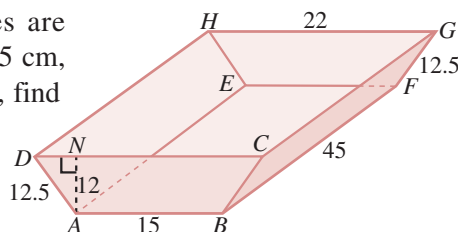
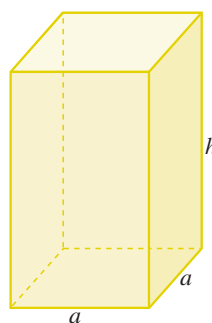


7. The figure shows a tray whose end faces are trapeziums. If  $AB = 15$  cm,  $BC = AD = 12.5$  cm,  $CD = 22$  cm,  $BF = 45$  cm and  $AN = 12$  cm, find
- the area of  $ABCD$ ,
  - the volume of the tray,
  - the external surface area of the tray.

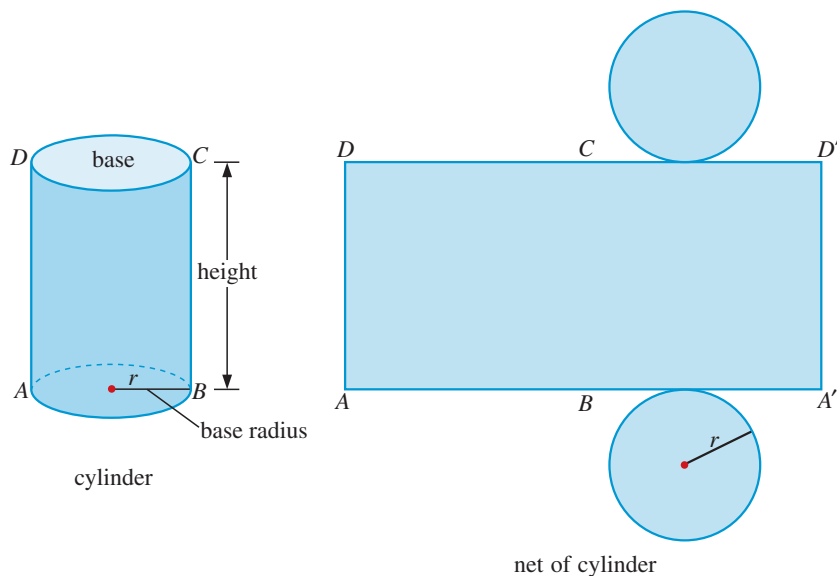


**Brainworks**

8. A manager wants to design a rectangular cardboard box of capacity  $900 \text{ cm}^3$ . The box should have a square base of side  $a$  cm and a height of  $h$  cm, where  $a$  and  $h$  are integers greater than 1.
- Find two possible sets of dimensions for the box.
  - Suggest a design that uses the least material to make the box.



**15.3 Volume And Surface Area Of A Cylinder**



**Discuss**

Looking at the net, do you think the two circular bases can be at any other positions besides the ones indicated?

A closed **cylinder** is a solid with two parallel circular end faces and a uniform circular cross-section. Each end face is called a **base** of the cylinder. Its radius is called the **base radius**. The perpendicular distance between the two bases is called the **height** of the cylinder.