

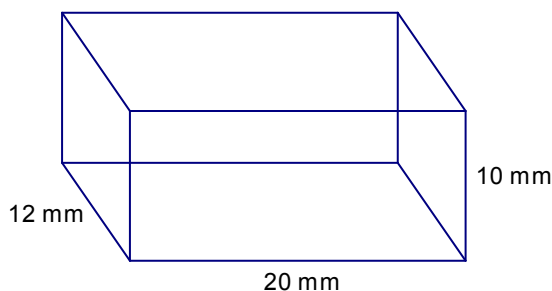
■ homework check: none

■ note: Prerequisite Skills

Volume is the amount of space occupied by an object or the amount of sand/liquid it takes to fill the object. Volume is measured in cubic units. In general, volume can be found by multiplying the area of the base of the three dimensional object by the height.

Surface area is the amount of material needed to construct the object. Surface area is measured in square units. In general, surface area can be calculated by summing the area of each face.

Find the volume and surface area of the following shapes.



$$V = A_{\text{base}}h$$

$$V = 20(12)(10)$$

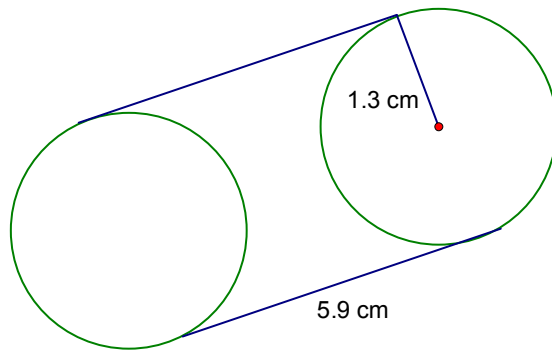
$$V = 2400\text{mm}^3$$

$$SA = 2lw + 2lh + 2wh$$

$$SA = 2(20)(12) + 2(20)(10) + 2(12)(10)$$

$$SA = 480 + 400 + 240$$

$$SA = 1120\text{mm}^2$$



$$V = A_{base}h$$

$$V = \pi r^2 h$$

$$V = \pi (1.3)^2 (5.9)$$

$$V = 31.3 \text{ cm}^3$$

$$SA = 2\pi r^2 + 2\pi rh$$

$$SA = 2\pi (1.3)^2 + 2\pi (1.3)(5.9)$$

$$SA = 62.6 + 48.2$$

$$SA = 110.8 \text{ cm}^2$$

Note: $1 \text{ mL} = 1 \text{ cm}^3$

■ homework assignment: NPM 9 p. 424 # 1 – 6, 8