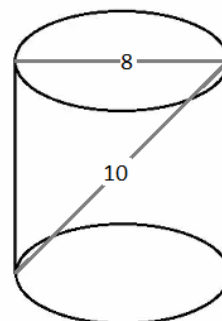
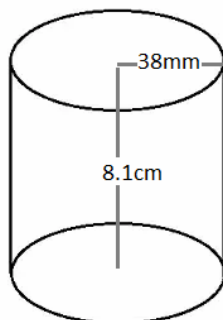
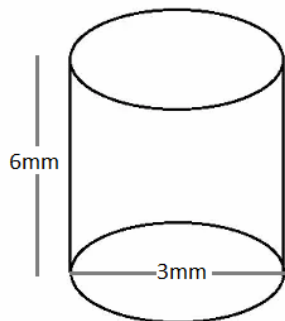
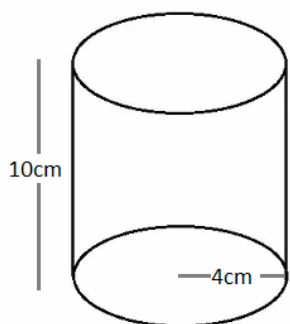
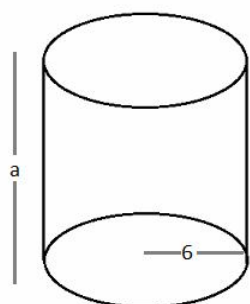


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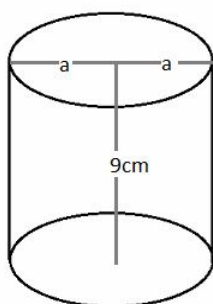
- (1) (a) Find the volume of each cylinder below. State the units in each of your answers.
 (b) Find the surface area of each cylinder given that they are all open topped (They have no lid). State the units used.
 (c) Find the total surface area of each cylinder given that they are closed top cylinders (They have lids top and bottom)



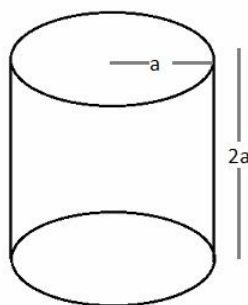
- (2) (a) Find the value of a in each of the diagrams below. (b) Find the surface area given that they are open topped.



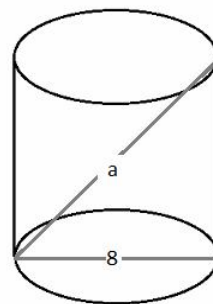
Volume = 288π



Volume = 27π



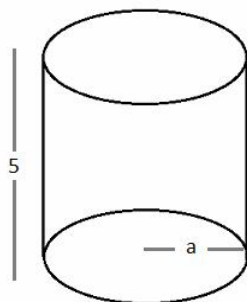
Volume = 54



Volume = 96π

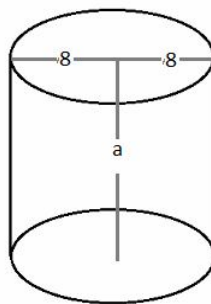
- (3) (a) Find the value of a in each of the diagrams below. (b) Find the capacity of each cylinder.

Solid (Closed top)



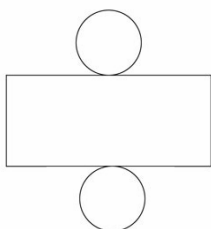
Surface Area = 28π

Open Top



Surface Area = 832π

- (4) The diagram below shows the net of a closed top cylinder.



The circumference of each circle is 8π square cm and the area of the rectangular part is 72π square cm.
 Find the volume of the cylinder when made up (a) in cubic cm and (b) in cubic metres.

- (5) A solid gold cylinder of height a and base radius a is melted down to make cones with height $0.5a$ and base radius $0.25a$. How many cones can be made from the cylinder? You can assume there is no wastage.