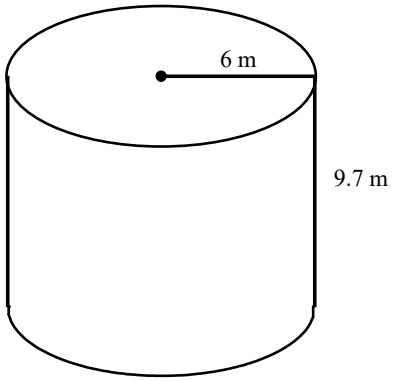
NAME:_____

1. Find the surface area of the cylinder to the nearest square unit. (Use $\pi = 3.14$.)



[A] $58\ m^2$ [B] $592\ m^2$ [C] $296\ m^2$ [D] $94\ m^2$

2. Determine which of these cylinders has the largest surface area.

[A] a cylinder with a height of 8 cm and a base with a radius of 3 cm

[B] a cylinder with a height of 4 cm and a base with a radius of 8 cm

[C] a cylinder with a height of 8 cm and a base with a radius of 4 cm

[D] a cylinder with a height of 6 cm and a base with a radius of 3 cm

3. The surface area of a cylinder is $28.64\ cm^2$. The radius of the base is doubled. The surface area of the new cylinder is

[A] doubled [B] tripled [C] quadrupled [D] the same

[E] Not enough information is given to determine the amount of change in the surface area.

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4. Compare the quantity in Column A with the quantity in Column B.

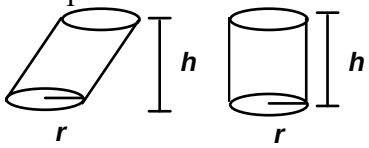
Column A	Column B
the lateral area of a cylinder with $r = 6$ and $h = 4$	the lateral area of a cylinder with $r = 4$ and $h = 9$

[A] The quantity in Column A is greater. [B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

5. Compare the surface areas of the two cylinders shown. Justify your answer.



6. Make a table showing the surface area and height of five different cylinders with radii 2, 3, 4, 5, and 6, if the volume of each cylinder is 144π. Which cylinder has the least surface area?

[1] B

[2] B

[3] E

[4] B

[5] They are the same, because the lateral area of each is $2\pi rh$ and the bases have the same area as well.

r	2	3	4	5	6
h	36	16	9	5.76	4
SA	152π	114π	104π	107.6π	120π

[6] The cylinder that has the least surface area is the one with radius 4 and height 9.