Princess Vulnavia presents … Cloud 9; Revision Raindrops

Surface Area of a Solid

Raindrop 5a

A cylinder of height h, has a base radius R which is the same as the radius of sphere S.
A cone of slant height L has a base radius which is also the same as the radius of sphere S.

It is given that;

| the curved surface area of the cylinder	:	the curved surface area of sphere S	:	the curved surface area of the come
= 1	:	1	:	1

Using exact values, find the following ratio in its simplest form.

Height of cylinder : perpendicular height of the cone.

Background Information

The surface area, A, of a sphere of radius r is: $A = 4 \pi r^2$

The curved surface area, A , of a cone of base radius r and slant height L is: $A = \pi r L$
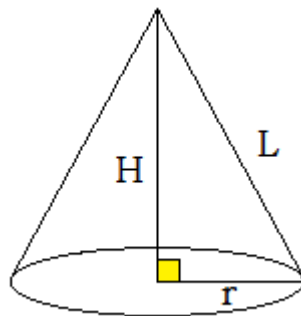
The answer follows on the next page …

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Answer: height of cylinder : perpendicular height of the cone.

= 2 : $\sqrt{15}$