

**Answer on Question #68598-Physics-Other**

The volume of a cylinder is calculated by multiplying the height by pi and the radius squared (  $V = h\pi r^2$  ). If the percent uncertainty of the radius is 10% and the percent uncertainty of the height is 2%, what is the percent uncertainty of the volume?

**Solution**

The percent uncertainty of the area is

$$2 \frac{\Delta r}{r} = 2(10\%) = 20\%$$

The percent uncertainty of the volume is

$$20\% + 2\% = 22\%.$$

**Answer: 22%.**

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