

## Geometric Variation

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1. The volume of a cylinder is tripled. If the height was reduced to one third of the original height, by what factor did the radius change?
2. The volume of a sphere was quadrupled. By what factor did the radius change?
3. The length of a rectangular prism is doubled; the width is quadrupled; the height is reduced by 99%. If the original volume was  $400 \text{ cm}^2$ , what is the new volume?
4. The volume of a pyramid is given by the formula.  $V = \frac{1}{3}Bh$ , where  $B$  is the area of the base of the pyramid. For a square pyramid, the side length of a pyramid is reduced by 20% its original size and the height is increased by 50%. If the original volume was  $520 \text{ cm}^2$ , what is the the volume of the new pyramid?
5. One circle has a diameter that is twice that of a different circle. What is the ratio of the larger circle's area to the smaller circle's area?