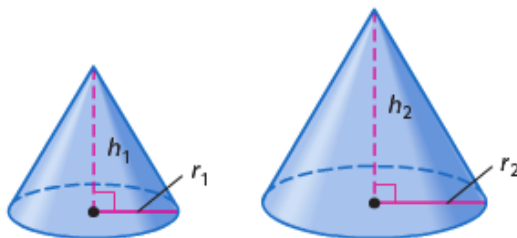


**12 - 8****Congruent and Similar Solids****Similar Solids**

*Two solids are similar if they have the same shape and the ratio of their linear measures are equal*



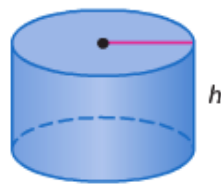
$$\frac{h_1}{h_2} = \frac{r_1}{r_2}$$

## Properties of Similar Solids

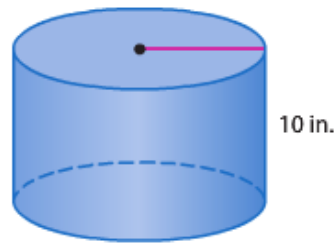
If two similar solids have a ratio of  $a:b$ , then the ratio of their Areas is  $a^2 : b^2$  and the ratio of their Volume is  $a^3 : b^3$

Examples	scale factor	2:3
	ratio of surface area	4:9
	ratio of volumes	8:27

Use the Similar solid to find the unknown value



$$V = 270\pi \text{ in}^3$$



$$V = 640\pi \text{ in}^3$$