Do-now:

5 inches

5 $in.^2$

5 in^3

1. Turn in HW Handout #2.

2. Take out Review books.

Similarity ratio | ratio of surface areas | ratio of volumes

$$\begin{tikzcd} \frac{a}{b} \arrow[r, bend right, "\text{square}"'] \arrow[rr, bend right, "\text{cube}"'] & \frac{a^2}{b^2} \arrow[l, bend right, "\sqrt{\ }"'] & \frac{a^3}{b^3} \arrow[ll, bend right, "\sqrt[3]{\ }"'] \end{tikzcd}$$

If the ratio of the volumes of two similar solids is 64:729, what is their similarity ratio?

$$\frac{\sqrt[3]{64}}{\sqrt[3]{729}} = \frac{4}{9}$$

similarity ratio

The ratio of the volumes of two similar figures is 27:729.
What is the ratio of their surface areas?

$$\frac{\sqrt[3]{27}}{\sqrt[3]{729}} = \frac{3}{9} = \frac{1}{3}$$ similarity ratio

$$\frac{1^2}{3^2} = \frac{1}{9}$$ ratio of surface areas

The volumes of two similar cylinders are 250π cubic inches and 1024π cubic inches. If the radius of the larger cylinder is 20 inches, what is the radius of the smaller cylinder?

ratio of Volumes $= \dfrac{250\cancel{\pi}}{1024\cancel{\pi}} = \dfrac{125}{512}$

$\dfrac{\sqrt[3]{125}}{\sqrt[3]{512}} = \dfrac{5}{8}$ similarity ratio

$\dfrac{5}{8} = \dfrac{x}{20}$

$\boxed{x = 12.5 \text{ in.}}$

Complete the following exercises from the review book in your notebook:

Section 10.1
Page 334 - 336 #s 1, 3, 20

Section 10.2
Page 342 - 343 #s 1, 2, 3, 4, 8

Section 10.3
Page 349 - 351 #s 1, 3, 6, 7, 8, 13, 14