

4-2-14  
5<sup>th</sup> Geo

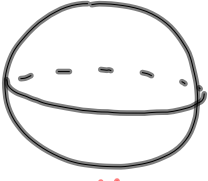
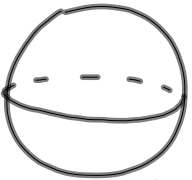
10-2 Questions

$$\textcircled{2} \text{ S.A.} = 2\pi r^2 + 2\pi r h$$
$$= 2\pi \cdot 8^2 + 2\pi \cdot 8 \cdot 16$$

$r = 8$   
 $h = 16$

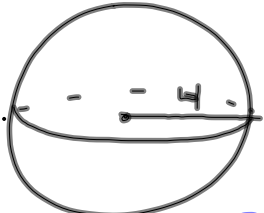

⑨

6 cm sphere      4 cm sphere


$$V = \frac{4}{3}\pi r^3$$
$$= \frac{4}{3}\pi \cdot 3^3$$
$$\approx 113.1 \text{ cm}^3$$
$$V = \frac{4}{3}\pi r^3$$
$$= \frac{4}{3}\pi \cdot 2^3$$
$$\approx 33.5 \text{ cm}^3$$
$$\begin{array}{r} 113.1 \\ - 33.5 \\ \hline 79.6 \text{ cm}^3 \end{array}$$

⑪

A      B


$$V = \frac{4}{3}\pi r^3$$
$$= \frac{4}{3}\pi \cdot 2^3$$
$$= \frac{4}{3}\pi \cdot \boxed{8}$$
$$V = \frac{4}{3}\pi r^3$$
$$= \frac{4}{3}\pi \cdot 4^3$$
$$= \frac{4}{3}\pi \cdot \boxed{64}$$

8x as large

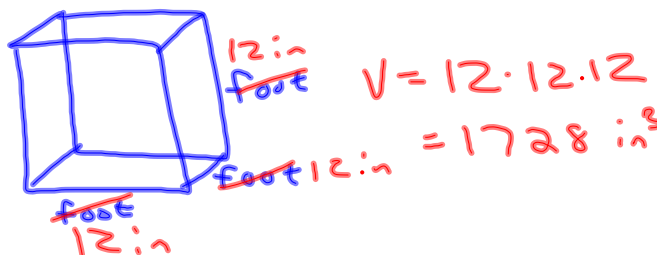
## More examples

1 cubic foot  $\approx$  7.5 gallons.

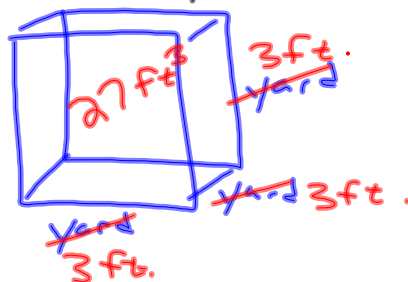
How many gallons does my hot water heater hold if it's a cylinder that is 2 feet in diameter and 4 feet high?

$$\begin{aligned} V &= \pi r^2 \cdot h \\ &= \pi \cdot 1 \cdot 4 \\ &= 4\pi \\ &\approx 12.56 \text{ ft}^3 \\ &\quad \times \quad 7.5 \\ &\hline &\approx 94 \text{ gallons} \end{aligned}$$

② How many cubic inches are in a cubic foot?



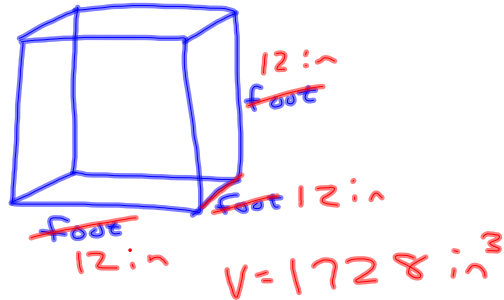
③ How many cubic ft. are in a cubic yard?



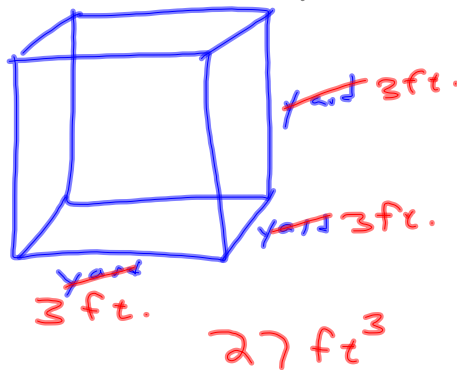
4-2-14  
6<sup>th</sup> Geo

New questions

How many cubic inches are in a cubic foot?



How many cubic feet are in a cubic yard?



1 cubic foot  $\approx$  7.5 gallons

My hot water heater is a cylinder that is 2 feet in diameter and 3 feet tall. How many gallons does it hold?

$$\begin{aligned} V &= \pi r^2 h \\ &= \pi \cdot 1^2 \cdot 3 \\ &= 3\pi \\ &\approx 9.4 \text{ ft}^3 \end{aligned}$$

9.4
<u>x 7.5</u>
70.5 gallons

