inches → ft : ÷12

ft → inches : ·12

Name Schlansky
Mr. Schlansky

Date _____
Geometry

Volume with Conversions

Convert the following units and round to the nearest tenth if necessary

1. 24 inches to feet

$\frac{24}{12}=2$ ft

2. 54 inches to feet

$\frac{54}{12}=4.5$ ft

2. 3 inches to feet

$\frac{3}{12}=.25$ ft

4. 4 inches to feet

$\frac{4}{12}=\frac{1}{3}$ ft

5. 2 feet to inches

$2\cdot12=24$ in

6. 5 feet to inches

$5\cdot12=60$ in

7. 3.5 feet to inches

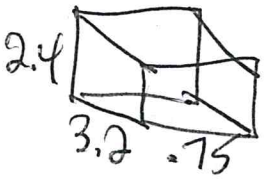
$3.5\cdot12=42$ in

8. 9.25 feet to inches

$9.25\cdot12=111$ in

9. What is the volume, to the *nearest cubic foot*, of a rectangular prism that is 2.4 feet high, 3.2 feet ~~wide~~, and 9 inches ~~high~~?

~~1~~ long



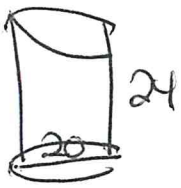
$\frac{9\text{ in}}{12}=.75$ ft

$V=lwh$

$V=.75(3.2)(2.4)$

$V=5.76$ ft^3

10. A cylinder has a diameter of 20 inches and a height of 2 feet. Find the volume rounded to the *nearest cubic inch.*

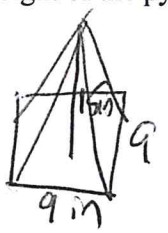


$2ft \cdot 12 = 24in$ $V = \pi r^2 h$

$V = \pi(10)^2(24)$

$V = 7540 in^3$

11. A regular pyramid has a square base. A side of the base measures 0.75 feet and the height of the pyramid is 15 inches. What is the volume of the pyramid in cubic inches?



$.75ft \cdot 12 = 9in$ $V = \frac{1}{3}lwh$

$V = \frac{1}{3}(9)(9)(15)$

$V = 405 in^3$

12. Find the volume of a cone whose diameter is 15 inches and height of 2 feet rounded to the *nearest cubic foot.*

$\frac{15in}{12} = \frac{5}{4}ft$ $V = \frac{1}{3}\pi r^2 h$

$V = \frac{1}{3}\pi\left(\frac{5}{8}\right)^2(2)$

$V = 0.8ft^3$

13. A child's tent can be modeled as a pyramid with a square base whose sides measure 60 inches and whose height measures 84 inches. What is the volume of the tent, to the *nearest cubic foot*?

$\frac{60in}{12} = 5ft$

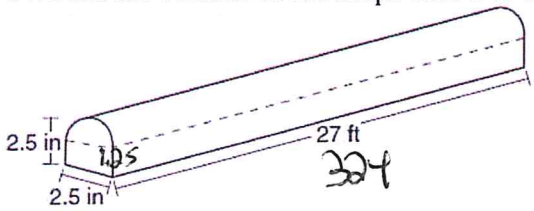
$\frac{84in}{12} = 7ft$

$V = \frac{1}{3}lwh$

$V = \frac{1}{3}(5)(5)(7)$

$V = 58ft^3$

14. Find the volume of the shape below to the *nearest cubic inch.*



$27ft \cdot 12 = 324in^3$

rectangular prism: $V = lwh$

$V = 2.5(1.25)(324)$

$V = 1012.5$

half cylinder: $V = \frac{1}{2}\pi r^2 h$

$V = \frac{1}{2}\pi(1.25)^2(324)$

$V = 795..$

$1012.5 + 795..$

1808 in^3