

①  $V = \frac{Bh}{3}$

$V = \frac{6(6)(5)}{3}$

$V = \frac{36}{3}(5)$

$V = 12(5)$

$V = 60 \text{ cm}^3$

$V = \frac{Bh}{3}$

②  $V = \frac{\pi r^2 h}{3}$

$V = \frac{3.14(7.4^2)(15.6)}{3}$

$V = 894.12$

$V = 894 \text{ m}^3$

③  $V = \frac{Bh}{3}$

$V = \frac{\frac{1}{2}(5)(6)(7)}{3}$

$V = 35 \text{ cm}^3$

④  $V = \frac{Bh}{3}$

$V = \frac{\pi r^2 h}{3}$

$V = \frac{3.14(4.7^2)(17.3)}{3}$

$V = 399.99$

$V = 400 \text{ ft}^3$

⑤  $V = \frac{Bh}{3}$

$V = \frac{21(18)35}{3}$

$V = 4410 \text{ cm}^3$

⑥  $V = \frac{Bh}{3}$

$V = \frac{\pi r^2 h}{3}$

$V = (3.14)(4^2)(?)$

HAVE to compute the height using Pythagorean Theorem.

$$\begin{aligned} a^2 + b^2 &= c^2 \\ 4^2 + b^2 &= 12^2 \\ 16 + b^2 &= 144 \\ -16 & \quad -16 \\ \hline b^2 &= 128 \\ b &= 11.3 \end{aligned}$$

$V = 3.14(4^2)(11.3)$

$V = 567.7$

$V = 568 \text{ in}^3$

⑦  $V = \frac{Bh}{3}$

$V = \frac{Lwh}{3}$

(3)  $88 = \frac{8(4.6)(h)(3)}{3}$

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$\frac{264}{36.8} = \frac{36.8h}{36.8}$

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$7.17 = h$

$7.2 = h$

⑧  $V = \frac{Bh}{3}$

$V = \frac{\pi r^2 h}{3}$

(3)  $487 = \frac{3.14(5^2)h(3)}{3}$

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$\frac{1461}{78.5} = \frac{78.5h}{78.5}$

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$18.61 = h$

$18.6 = h$

$$(9) V = \frac{Bh}{3}$$

$$V = \frac{LWh}{3}$$

$$(3) 489 = \frac{14(14)h}{3} (3)$$

$$\frac{1467}{196} = \frac{196h}{196}$$

$$7.48 = h$$

$$\boxed{7.5 = h}$$

$$(10) V = \frac{Bh}{3}$$

$$V = \frac{Lwh}{3}$$

$$(3) 56 = \frac{x^2(8.9)}{3} (3)$$

$$\frac{168}{8.9} = \frac{8.9x^2}{8.9}$$

$$18.87 = x^2$$

$$4.34 = x$$

$$\boxed{4.3 = x}$$

(11) Find the volume of the rectangular prism, then subtract the cylindrical hole.

Rectangular Prism

$$V = Lwh$$

$$V = 4(3)(2)$$

$$V = 24 \text{ ft}^3$$

Cylindrical Hole

$$V = \pi r^2 h$$

$$V = 3.14(.5)^2(3)$$

$$V = 2.335 \text{ ft}^3$$

$$\begin{array}{r} 24 \\ - 2.335 \\ \hline 21.665 \end{array}$$

$$\boxed{21.7 \text{ ft}^3}$$

(12) Volume of Cylindrical Tin:

$$V = Bh$$

$$V = \pi r^2 h$$

$$V = 3.14(4^2)(18)$$

$$V = 904.32 \text{ in}^3$$

Volume of Box:

$$8 \cdot 8 \cdot 14 = 896 \text{ in}^3$$

Will not fit. Volume is less in box than in cylinder.