

The cylindrical canister of a fire extinguisher has a radius of 4 inches and is 12 inches high. How many cubic inches can it hold?

Volume

Cylinder
 $V = \pi r^2 h$
 radius = 4 $(3.14)(4)(4)(12)$
 $h = 12$ $V = 602.88 \text{ in}^3$

Thelma and David built a recycling bin that is 6 feet wide, 12 feet long, and 14 feet high. How much trash can fit inside of the bin?

Volume

Rectangular Prism
 $V = lwh$
 $(12)(6)(14)$
 $V = 1008 \text{ ft}^3$

A soup can has a diameter of 8 cm and a height of 10.5 cm. How much metal is needed to make the can?

SA

Cylinder $SA = 2\pi r^2 + 2\pi rh$
 $r = 4$ $2(3.14)(4)(4) + 2(3.14)(4)(10.5)$
 $h = 10.5$ $100.48 + 263.76$
 $SA = 364.24 \text{ cm}^2$

Josh is wrapping a box that is 5 feet long 14 feet wide and 3 feet tall with wrapping paper. How much wrapping paper will he need to cover the box?

SA

RP $= 2lw + 2lh + 2wh$
 $l = 5$ $2(5)(14) + 2(5)(3) + 2(14)(3)$
 $w = 14$ $140 + 30 + 84$
 $h = 3$ $SA = 254 \text{ ft}^2$

A cylindrical chemical tank is 12 feet high and has a diameter of 45 feet. How many cubic feet of liquid could the tank hold?

Volume

Cylinder
 $d = 45$ $V = \pi r^2 h$
 $r = 22.5$ $(3.14)(22.5)(22.5)(12)$
 $h = 12$ $V = 1907.55 \text{ ft}^3$

A round swimming pool has a diameter of 15 feet and is 6 feet tall. How much water will the pool hold?

Volume

Cylinder
 $d = 15$ $V = \pi r^2 h$
 $r = 7.5$ $(3.14)(7.5)(7.5)(6)$
 $h = 6$ $V = 1056.75 \text{ ft}^3$

Brian is building a sand box that is 6 feet wide, 3 feet long, and 15 inches high. How many cubic feet of sand with the box hold?

Volume

RP $V = lwh$
 $l = 3$ $3(6)(15)$
 $w = 6$ $= 270 \text{ ft}^3$
 $h = 15$

Adam is building a rectangular garden storage container. The container will be 3 feet wide, 5 feet long, and 2 feet high. How much wood is needed to make the storage container?

SA

RP $2lw + 2lh + 2wh$
 $l = 5$ $2(5)(3) + 2(5)(2) + 2(3)(2)$
 $w = 3$ $30 + 20 + 12$
 $h = 2$ $SA = 62 \text{ ft}^2$