Activity Lab P. 612: Surface Area and Volumes

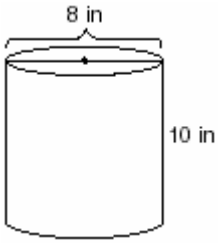
1. 010802a, P.I. A.G.2
A block of wood is 5 inches long, 2 inches wide, and 3 inches high. What is the volume of this block of wood?

[A] 30 in^3 [B] 38 in^3

[C] 25 in^3 [D] 10 in^3

2. 010123a, P.I. A.G.2
A cardboard box has length $x-2$, width $x+1$, and height $2x$.
a Write an expression, in terms of *x*, to represent the volume of the box.
b If *x* = 8 centimeters, what is the number of cubic centimeters in the volume of the box?

3. 060530a, P.I. A.G.2
A storage container in the shape of a right circular cylinder is shown in the accompanying diagram.

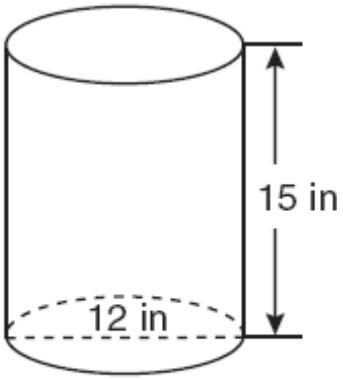


What is the volume of this container, to the *nearest hundredth*?

[A] 251.33 in^3 [B] 502.65 in^3

[C] 125.66 in^3 [D] 56.55 in^3

4. fall0712ia, P.I. A.G.2
A cylindrical container has a diameter of 12 inches and a height of 15 inches, as illustrated in the diagram below.



(Not drawn to scale)

What is the volume of this container to the *nearest tenth* of a cubic inch?

[A] 4,241.2 [B] 2,160.0

[C] 1,696.5 [D] 6,785.8

[1] A

a [1] Either $(x - 2)(x + 1)(2x) = V$ or the same expression without "$= V$" is shown.
or [1] $2x^3 - 2x^2 - 4x$ or an equivalent expression is shown.
b [1] 864
or [1] The student substitutes appropriately into an incorrect part a equation.
[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously
[2] incorrect procedure.

[3] B

[4] C