

NAME: _____

A.G.2: Use formulas to calculate volume and surface area of rectangular solids and cylinders.

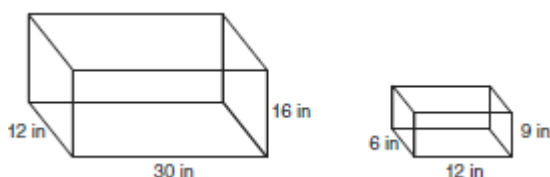
1. 060809ia, P.I. A.G.2

Lenny made a cube in technology class. Each edge measured 1.5 cm. What is the volume of the cube in cubic centimeters?

[A] 13.5 [B] 2.25 [C] 9.0 [D] 3.375

2. 080932ia, P.I. A.G.2

The diagram below represents Joe's two fish tanks.



Joe's larger tank is completely filled with water. He takes water from it to completely fill the small tank. Determine how many cubic inches of water will remain in the larger tank.

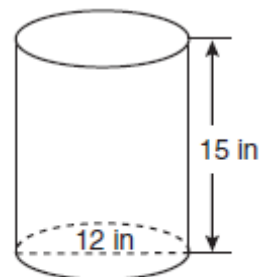
3. 060827ia, P.I. A.G.2

Mrs. Ayer is painting the outside of her son's toy box, including the top and bottom. The toy box measures 3 feet long, 1.5 feet wide, and 2 feet high. What is the total surface area she will paint?

[A] 27.0 ft^2 [B] 13.5 ft^2
[C] 22.5 ft^2 [D] 9.0 ft^2

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] 6,785.8 [B] 4,241.2
[C] 2,160.0 [D] 1,696.5

5. 010936ia, P.I. A.G.2

A soup can is in the shape of a cylinder. The can has a volume of 342 cm^3 and a diameter of 6 cm. Express the height of the can in terms of π . Determine the maximum number of soup cans that can be stacked on their base between two shelves if the distance between the shelves is exactly 36 cm. Explain your answer.

A.G.2: Use formulas to calculate volume and surface area of rectangular solids and cylinders.

[1] D

[2] 5,112, and appropriate work is shown.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made, such as not finding the difference.

or [1] $(12)(30)(16) - (6)(9)(12)$ or an equivalent expression, but no further correct work is shown.

or [1] 5,112, but no work is shown.

[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] A

[4] D

[3] $\frac{38}{\pi}$ or an equivalent answer in terms of

π , and 2, and appropriate work is shown, and an appropriate explanation is given.

[2] Appropriate work is shown, but one computational or rounding error is made, but an appropriate explanation is given.

or [2] Appropriate work is shown and an appropriate explanation is given, but the correct height of the can is expressed as a decimal.

or [2] $\frac{38}{\pi}$ and 2, and appropriate work is

shown, but an appropriate explanation is not given.

[1] Appropriate work is shown, but two or more computational or rounding errors are made, but an appropriate explanation is given.

[1] Appropriate work is shown, but one conceptual error is made, but an appropriate explanation is given.

or [1] $\frac{38}{\pi}$ and 2, but no work is shown.

[0] $\frac{38}{\pi}$ or 2, but no work is shown.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[5] obviously incorrect procedure.