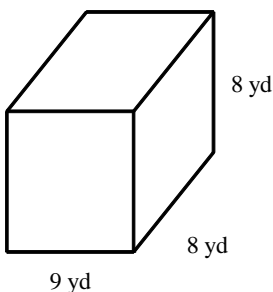


*P.I. A.G.2: Use formulas to calculate volume and surface area of rectangular solids and cylinders*

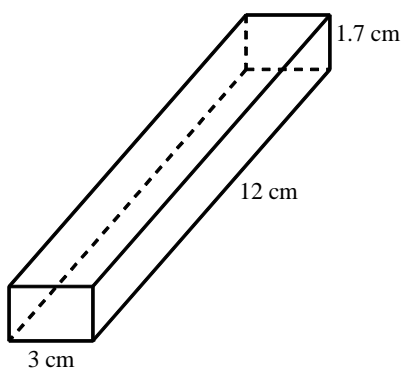
1. The formula for the volume of a cube is  $V = s^3$ . Write an expression for the volume of a cube in which  $s = 2x^4$ .

2. Find the volume:



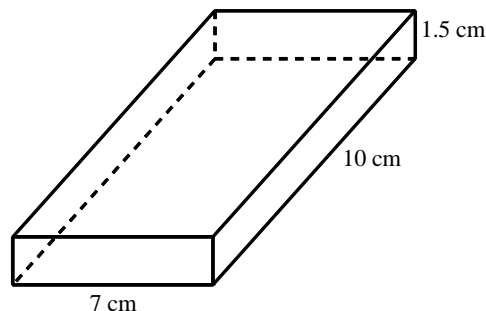
- [A] 576 cubic yards      [B] 416 cubic yards  
[C] 100 cubic yards      [D] 136 cubic yards

3. Find the volume of the rectangular prism.



- [A]  $61.5 \text{ cm}^3$       [B]  $61.2 \text{ cm}^3$   
[C]  $66.8 \text{ cm}^3$       [D]  $56.4 \text{ cm}^3$

4. Find the volume of the rectangular prism.

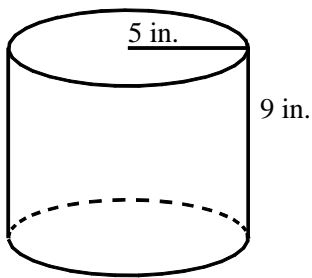


- [A]  $85 \text{ cm}^3$       [B]  $95.5 \text{ cm}^3$   
[C]  $74 \text{ cm}^3$       [D]  $105 \text{ cm}^3$

5. Concrete is purchased by the yard, which means cubic yard. How much will it cost to pour a 16 ft by 16 ft by 6 in. slab for a patio if concrete costs \$58 a yard?

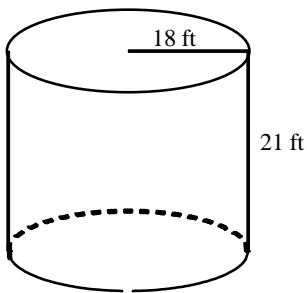
6. The formula for the volume of a cylinder is  $V = \pi r^2 h$ . Write an expression for the volume of a cylinder in which  $r = 6x^4$ . Use 3.14 for  $\pi$ .

7. Find the volume of the cylinder. (not drawn to scale)

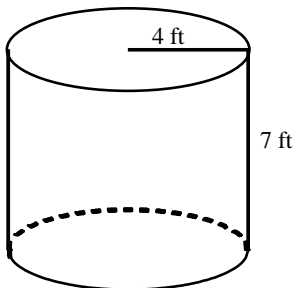


- [A]  $54\pi \text{ in.}^3$       [B]  $225\pi \text{ in.}^2$   
 [C]  $45\pi \text{ in.}^3$       [D]  $225\pi \text{ in.}^3$

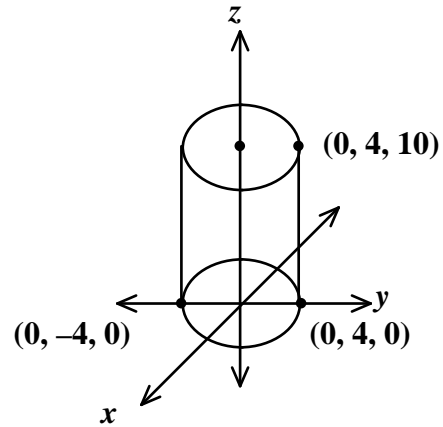
8. Find the volume of the cylinder. Use 3.14 for  $\pi$ .



9. Find the volume of the cylinder. Use 3.14 for  $\pi$ .



10. Find the volume of the cylinder shown. Leave your answer in terms of  $\pi$ .



11. What is the volume of a can of soup that has a height of 16 cm and a diameter of 8 cm?
12. Cylinder A has radius 1 and height 4 and cylinder B has radius 2 and height 4. The ratio of the volumes of the two cylinders is
- [A] 1:4      [B] 1:2      [C] 1:1  
 [D] 5:6      [E] cannot be determined

Integrated Algebra Practice: A.G.2 #1

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- [1]  $8x^{12}$  \_\_\_\_\_
- [2] A \_\_\_\_\_
- [3] B \_\_\_\_\_
- [4] D \_\_\_\_\_
- [5] about \$275.00 \_\_\_\_\_
- [6]  $113.04x^8h$  \_\_\_\_\_
- [7] D \_\_\_\_\_
- [8]  $21,364.56 \text{ ft}^3$  \_\_\_\_\_
- [9]  $351.68 \text{ ft}^3$  \_\_\_\_\_
- [10]  $160\pi$  cu units \_\_\_\_\_
- [11]  $803.84 \text{ cm}^3$  \_\_\_\_\_
- [12] A \_\_\_\_\_