

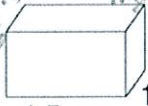
Name:

Date:


Period:

REMEMBER: Partial credit is granted only when work is shown and comprehensible!

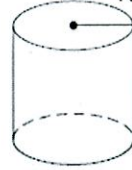
Find the surface area and volume of each 3D figure. Use 3.14 for pi. Don't forget to label your answers!

SA: T/B  $1.5 \times 2 = 3$   
 F/B  $2.4 \times 2 = 4.8$   
 4R  $2 \times 2.4 \times 1.8 = 8.64$   
 $1.8 \times 4.5 = 8.1$   
 $16.22.4 \text{ cm}$   
  
 V:  $2.4 \times 4.5 \times 1.8$

- 1) Surface Area = 46.44 cm<sup>2</sup>  
 2) Volume = 19.44 cm<sup>3</sup>

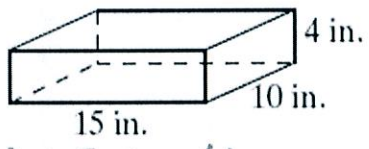
SA: T/B  $6.1 \times 7.8 = 47.58$   
 F/B  $6.4 \times 6.4 = 40.96$   
 $99.84$   
  
 V: ~~X~~

- 3) Surface Area = 140.8 cm<sup>2</sup>  
 4) Volume = I NEVER TAUGHT YOU THIS, IT WONT BE ON THE TEST

SA: T/B  $4.6 \times 2 = 9.2$   
 LA  $2\pi(4.6) \times 8.7 = 251.3$   
 $3.14 \times 4.6^2 = 132.9$   
  
 V:  $3.14 \times 4.6^2 \times 8.7$

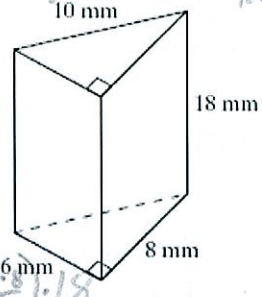
- 5) Surface Area = 384.2 cm<sup>2</sup>  
 6) Volume = 578.0 cm<sup>3</sup>

SA: T/B  $15 \times 4 = 60$   
 F/B  $15 \times 10 = 150$   
 4R  $4 \times 10 \times 4 = 160$   
 $300$   
 $120$   
 $80$



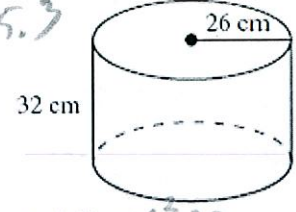
- 7) Surface Area = 500 in<sup>2</sup>  
 8) Volume = 600 in<sup>3</sup>

SA: T/B  $8 \times 6 = 48$   
 L  $8 \times 10 = 80$   
 B  $6 \times 10 = 60$   
 R  $8 \times 10 = 80$   
 $48$   
 $108$   
 $160$   
 $144$




- 9) Surface Area = 480 mm<sup>2</sup>  
 10) Volume = 432 mm<sup>3</sup>

SA: T/B  $26 \times 2 = 52$   
 LA  $2(3.14)26 \times 32 = 5225.0$   
 $4245.3$



- 11) Surface Area = 9470.3 cm<sup>2</sup>  
 12) Volume = 67924.5 cm<sup>3</sup>

13) A cylindrical barrel is 2.8 feet in diameter and 8 feet high. If you wanted to paint this barrel, how much paint would you need to cover it?

SA:  $n = 1.4$   
 $3.14 \times 1.4^2 \times 2 = 12.3$   
 LA:  $2 \times 3.14 \times 1.4 \times 8 = 70.3$   
 $82.6 \text{ ft}^2$   


14) (Use #13) If you were going to fill this barrel with water, how many cubic feet of water would you need to fill it?

Volume:  $\pi r^2 h$   
 $3.14 \times 1.4^2 \times 8 = 49.2 \text{ ft}^3$

15) Hector is digging a rectangular hole to prepare for the foundation of a new building. How many cubic meters of dirt must be removed if the measurements are 32 meters long, 12 meters wide, and 8 meters deep?

VOLUME:  $32 \cdot 12 \cdot 8 = 3072 \text{ m}^3$

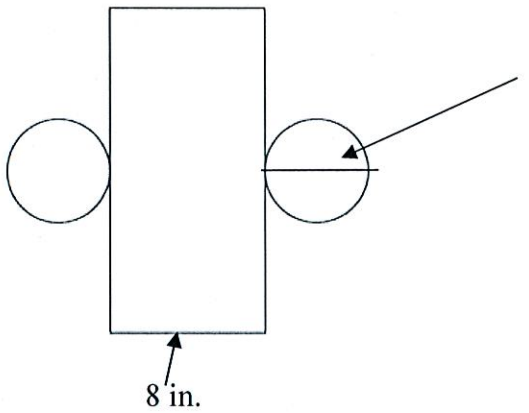
16) If concrete costs \$1.50 per cubic meter, how much would it cost to fill that hole with concrete?

$3072 \times 1.5 = \$4,608$

17) Why can you find an exact surface area measurement for a prism but not for a cylinder? Explain.

- CYLINDER we use 3.14 & NOT  $\pi$ . PRISM we can find EACH PART.  
 - we HAVE TO ROUND

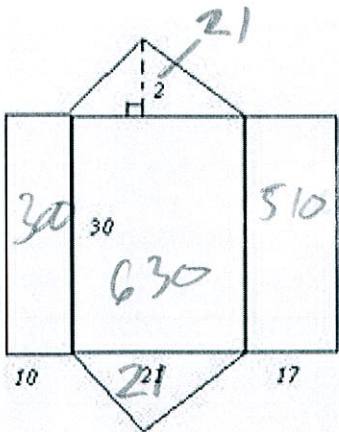
18) Name and find the Surface Area of the net



CYLINDER

TIB  
 $A: R=5$   
 $2 \times 3.14 \times 5^2 = 157$   
 $LA: 8 \times 2 \times 3.14 \times 5 = 251.2$   
 $408.2 \text{ in}^2$

19) Name and find the Surface Area of the net



TRIANGULAR PRISM

$14820^2$