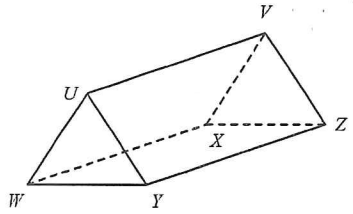
Name: Solutions Class: _____ Date: _____ ID: R

Surface Area and Volume Test REVIEW 2018

3-20 must have formulas + All work! No formulas or no work Then No credit!

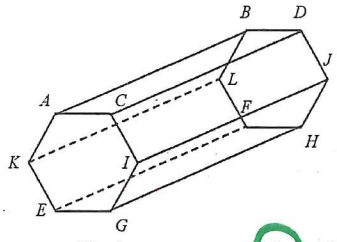
Identify the solid.

1.



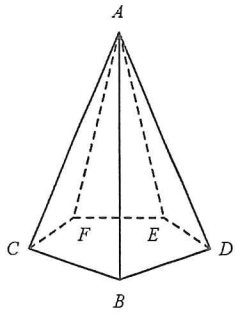
a. rectangular prism b. rectangular pyramid c. triangular prism d. triangular pyramid

2.



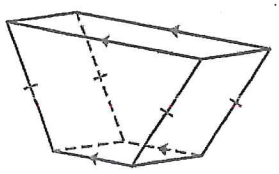
a. cylinder b. hexagonal prism c. pentagonal prism d. hexagonal pyramid

3.



a. cone b. pentagonal pyramid c. pentagonal prism d. hexagonal pyramid

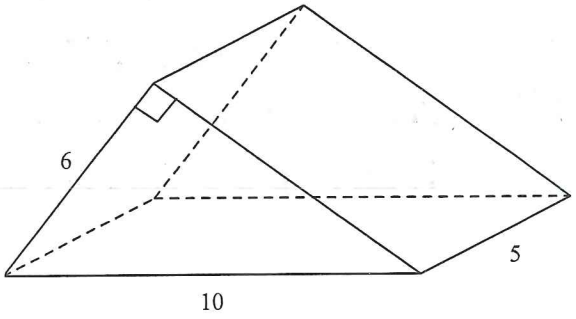
4.



a. square prism b. hexagonal prism c. trapezoidal prism d. pentagonal prism

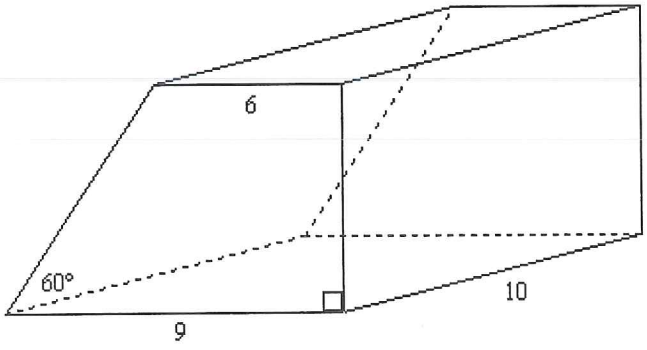
Find the surface area and volume of the next 6 solids. Round to the nearest tenth, if necessary.

5.



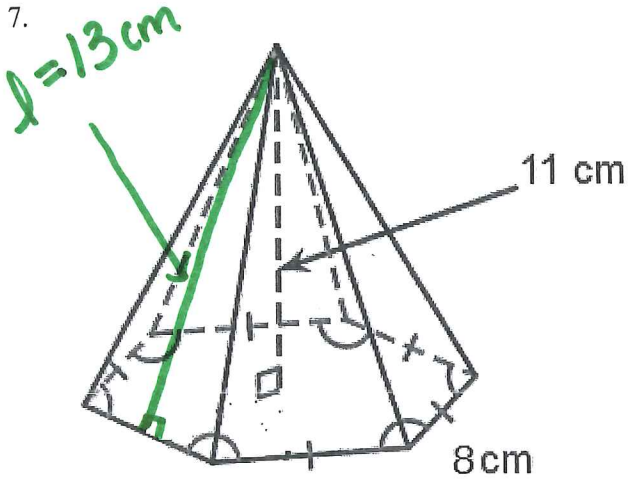
SA = 168 u²
V = 120 u³

6.



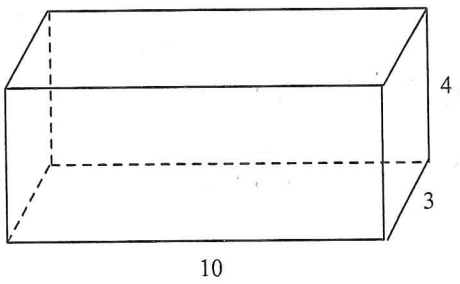
SA = 339.9 u²
V = 389.7 u³

7.



SA = 478.3 cm²
V = 609.7 cm³

8.

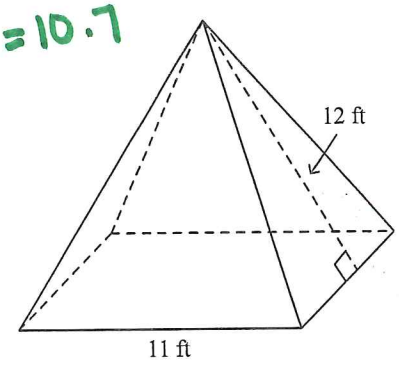


$SA = 164\ u^2$

$V = 120\ u^3$

9. The figure below is a square pyramid.

$H = 10.7$

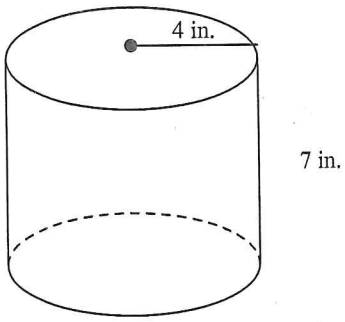


$SA = 385\ ft^2$

$V = 431.6\ ft^3$

10.

$H = 10.7$

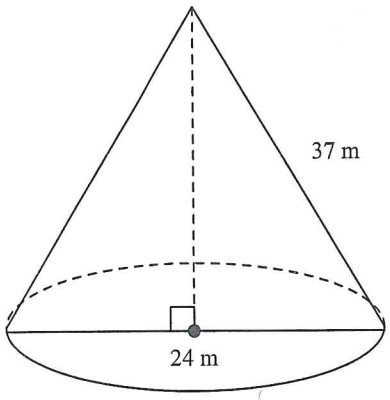


$SA = 276.5\ in^2$

$V = 351.9\ in^3$

Find the surface area and volume of the cone. Round to the nearest tenth, if necessary.

11.

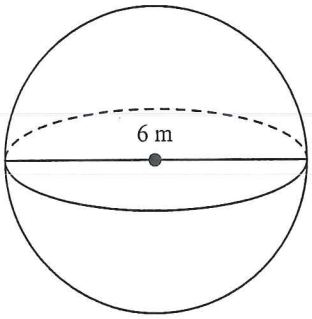


$SA = 1847.3 m^2$

$V = 5277.9 m^3$

$H = 35m$ ← Find this 1st

12. **Find the surface area and volume of the sphere. Round to the nearest tenth, if necessary.**



$SA = 113.1 m^2$

$V = 113.1 m^3$

13. A snow cone holder is 12 centimeters deep and has a diameter of 9 centimeters. A spherical scoop of ice for the snow cone that is 9 centimeters in diameter rests on the top of the cone. If all the snow cone ice melts into the holder, will the holder overflow? Explain.

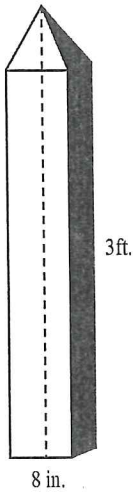
must show Both volumes. Students explain!

14. Find the volume of a rectangular prism that is 10 centimeters long, 14 centimeters wide, and 19 centimeters high. What is the effect on the volume of the rectangular prism when each dimension is doubled?

(For credit you must show Both volumes regular + doubled)

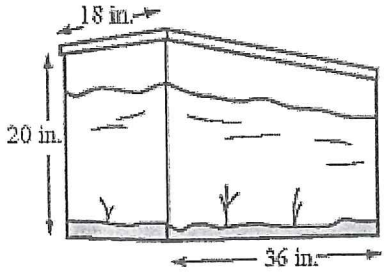
8 times larger

15. Brandon made a model of a tower as shown below. It is composed of a square prism and a square pyramid. The height of the pyramid is 2 inches. He would like to paint the model tower and knows one can of paint covers 900-1000 square inches. How many cans of paint does Brandon need to give the model tower one coat of paint?



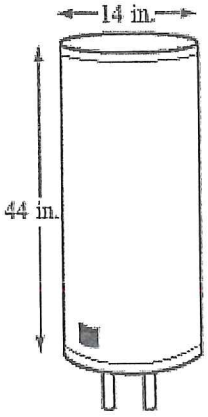
2 cans of paint

16. Find the amount of glass needed to make an aquarium 36 inches in length, 18 inches in width, and 20 inches in height, the bottom base of which is also made from glass.



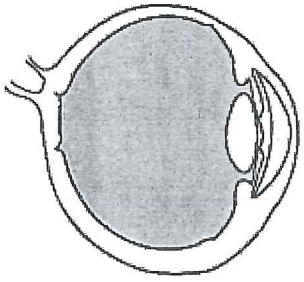
$2808\ in^2$

17. A hot-water heater is in the shape of a cylinder. Find the amount of insulation needed to cover the sides of the hot-water heater.



$=1935.2in^2$

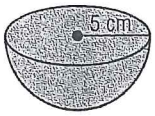
18. The human eye is a spherical structure about 25 mm in diameter. Find the surface area of the eye.



~~SA = 196.3n~~

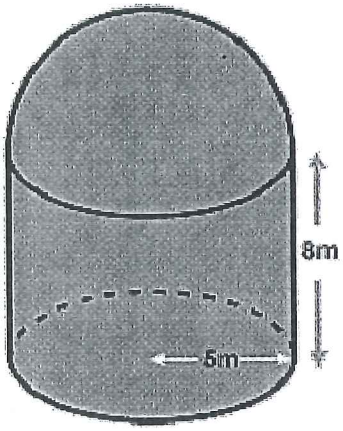
SA = 1963.5 mm²

19. Find the surface area of this hemisphere to the nearest tenth.



SA = 235.6 cm²

20. Find the surface area and volume of the composite below.



SA = 486.9 m²

V = 890.1 m³