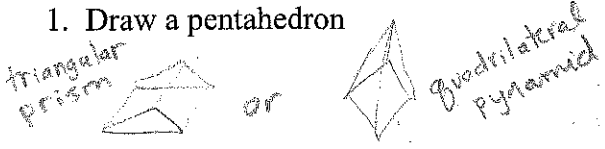


Please complete on your own paper.



2. If a polyhedron has 18 vertices and 31 edges, how many faces will it have?

$$V + F = E + 2$$

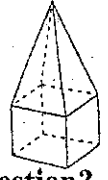
$$18 + F = 33$$

15 faces

3. How many vertices, edges and faces for the object at right?

$$V = 9, E = 16, F = 9$$

$$9 + 9 = 16 + 2 \checkmark$$



#4-8, Draw a sketch to help answer the question. Double check...is it surface area or volume question?

4. Find the surface area of a cube if the perimeter of its base is 20 cm.

$$4s = 20$$

$$s = 5$$



$$6(5 \cdot 5) = 150 \text{ cm}^2$$

5. Find the surface area of cone with a radius of 7ft. and a height of 10ft.



$$\pi 7^2 + \pi 7(12.21)$$

$$10, 12.21 = l$$

422.45 ft²

6. Find the surface area for a regular triangular prism (which means the base must be equilateral) if the length of the bases is 5 ft. and the height is 6 ft.

$$3(5 \cdot 6) + 2(\frac{1}{2} \cdot 5 \cdot 4.33)$$



$$90 + 21.65 = 111.65 \text{ ft}^2$$

7. Find the volume of a regular pentagonal prism if the base has side lengths of 8 mm and the object's height is 15 mm.



$$(\frac{1}{2} a p) H = (\frac{1}{2} (55.40) 15)$$

1651.65 mm³

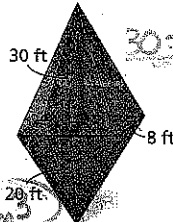
8. The packaging for a new beach ball claims it will have a diameter of 13 cm. when fully inflated. What will its volume be when fully inflated?

1150.35 cm³

$$r = 6.5$$

$$\frac{4}{3} \pi (6.5)^3$$

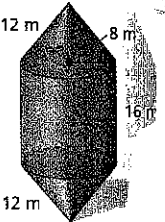
9. Find the volume for the composite solid.



$$25.37 = h \text{ big pyramid}$$

1052.37 cm³

$$\text{Big } \frac{(8 \cdot 8)(25.37)}{3} + \frac{(8 \cdot 8)(20)}{3}$$



10. Find the surface area for the composite solid.

$$2(\pi(8)(12)) + 2 \cdot \pi \cdot 8 \cdot 16$$

1407.44 m²

11. A triangular pyramid has a volume of 180 cubic feet and a height of 12 ft. Find the length of the triangle's base if the height to that side of the base is 6 ft. (Let's say the base is a right triangle with one leg 6 ft and the other leg unknown)



$$\frac{(\frac{1}{2}(6 \cdot x)) \cdot 12}{3} = 180$$

h = 15 ft

12. The volume of a sphere is 1426.75 cm³. What is its surface area?

$$1426.75 = \frac{4}{3} \pi r^3$$

$$r = 6.98$$

$$4\pi(6.98)^2 = 612.89 \text{ cm}^2$$