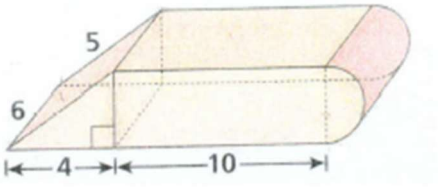
4- EXERCISES GEOMETRY

1. a) Which is the minimun number of faces a polyhedron has?
   b) A polyhedron has 5 faces and 6 vertices. Draw it.
   c) A prism has 12 edges. What is its name?
   d) A pryramid has 16 edges. What is its name?
   e) Is a prism with 9 vertices possible? Is a pyramid with 9 edges possible?
   f) If the number of sides of the polygon of the base of a prism is multiplied by 2, is the number of faces of the prism multiplied by 2? And the number of vertices?
   g) A polyhedron has as many vertices as edges a tetrahedron has and as many as edges as vertices a hexagonal prism has. How many faces does it has?

2. In a cube of edge 12 cm, compute the area of a triangle formed with the extrems of three edges with a common vertex. (Extrems that are not the common vertex.)
3. A prism is building, its base is a rhombo with diagonals of 32m and 24m and the height is equal the perimeter of the base. Compute the area of the base and the walls.
4. The bases of a right prism are right triangles with area 8 cm2, and the lateral edges are 7cm. Compute the total area of the prism.
5. Keops pyramid has a square base of side 230m and a height of 137m. It is built using stone blocks of 2500kg each one. Knowing that each m^3 of stone is 2800kg. Compute approximately the number of stone blocks using to build the pyramid and the lateral edge.
6. A cylinder with a base radius of cm contains water with a depth of 9cm, when a stone is immersed in the water, the depth of the water increases to 10.5 cm deep, completely covering the stone. What is the volume of the stone?
7. A cylinder with diameter of 20cm contains water. A stone is immersed in the water and the water increases 5cm deep. On other hand, 1.5 l of water are introduced in the cylinder. What is the action that increases more than the other the level of water.
8. A rectangular swimming pool of 10m long, 6m width and 2m depth fulfil of water. If the 25 l of water are introduced in each minute, how long is it spent to fulfil the swimming pool?
9. A factory needs a cylindrical tank where they could fit 3000 m^3 of fuel. They want to build it on a square field of 15 meters of side. If you want to take advantage of the maximum ground, how high will the tank be?

10. Compute the total area of the solid:



11. A souvenir figure is a cylinder of radius of the base 5cm and height 4cm, crowned by a semisphere. Inside the figure is a solid cone of radius 3 cm and slant height of 6 cm, and some particles that simulate snow with a volume of 1cm3. How many centiliters of water would fill the interior of the memory figure?

12. The diagonals of a rhombo measures 6 and 8cm, find out the area of the figure obtained by turning the rhombo by the greatest diagonal.

13. Compute the lateral area of a pyramid of 8cm height and the base a square of 3 cm side.

14. We have a trunk of 5 meters of length, whose section is a circle of 15 cm of radius; it is wanted to extract the largest prism with squares as bases. Find the volume of wood remove the trunk to obtain the prism.