# 2- EXERCISES GEOMETRY

1. Three points A, B and C are on a circumference of center O. The arcs AB and BC are 50° each one. Find the value of the center angle AOB and the angles of the triangle ABC.
2. Calculate the angles of an isosceles triangle knowing that the radius of the circumscribed circumference corresponding to the ends of the equal sides form an angle of 100°.
3. On a clock, the numbers 1, 3, 6 and 11 are consecutively joined. Show that this quadrilateral is not a parallelogram. What kind of quadrilateral is it? Find the angles.
4. The radio of a circumference measures 8.75 meters. On this circumference an arc of 24° is considered. Find the length of this.
5. Calculate, in degrees, the value of an arc of a circumference whose length is equal to the radius of the circle.
6. Determine the length of a circumference circumscribed by a square of side 8 cm.
7. A circumference A has a diameter of 10 centimeters. What is the radius of another circumference B which longitude is twice the longitude of A?
8. The diameter of the back wheels of a car are 1.5 meters, the front wheels have a shorter than the front, so that for every 5 turns that give the back wheels, the front wheels give 7. How many laps have to give the front wheels to move 1 km?
9. A cyclist runs for 5 minutes on a flat, 24 km/h, and then he climbs a slope on foot, pushing the bicycle. Both wheels have diameter of 70 cm. If each wheel has given 1.000 turns during the whole passage, what is the length of the slope?
10. There are two parallel lines, and a transversal that cuts them perpendicularly. Find the center of a circle that is tangent to the three lines. What does it happens if the transversal is not perpendicular?
11. Given a regular pentagon inscribed in a circumference, the diagonals from one vertex are drawn. Determine the angles of the three triangles that appear.
12. The hourly points of a clock that correspond to hours that are not multiples of 3 are consecutively joined. Find reasonably what type of polygon is formed, its number of diagonals and the measure of its angles.
13. Mir was traveling around the Earth at a height of 400 kilometers. The circumference of the Earth is about 40,000 km. Calculate the total distance traveled by the Mir during its 86,500 laps while in orbit.
14. The hourly points of a clock that correspond to hours that are nonprime numbers are consecutively joined, obtaining a polygon. Find the measure of your angles. Is the polygon regular?
15. Describe the following figures to be drawn by a person who is not watching:

16. With a wire Juan wants to give 15 laps around a stick. What is the minimun possible longitude of the wire?
17. Compute the angles of a polygon form by joining the numbers 2,3 and 12 in a circular clock.
18. A lighthouse has a light turning 160º. At 3km from the lighthouse, what is the longitude of the arc ilumitated.