

Regular Polygon (C)

A regular polygon is a convex polygon where all the sides are equal and all of the angles formed by the sides are equal. If P denotes the perimeter of a regular polygon and H denotes the distance from the center of the regular polygon to the midpoint of one of its sides, then the area of the polygon is $PH/2$. This can be seen by cutting the polygon into triangles by connecting the center to the vertices and then constructing an trapezoid of altitude H if the number of sides is odd, or a parallelogram of altitude H , if the number of sides is even, whose area is that of the regular polygon. If a circle is considered as an extreme case of a regular polygon, we obtain the little used formula that the area is the circumference times the radius divided by 2.