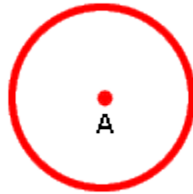
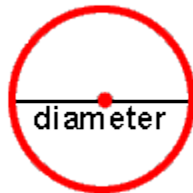


circle and its parts

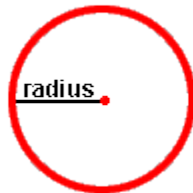
A **circle** is a shape with all points the same distance from its center. A circle is named by its center. Thus, the circle to the right is called circle A since its center is at point A. Some real world examples of a circle are a wheel, a dinner plate and (the surface of) a coin.



The distance across a circle through the center is called the **diameter**. A real-world example of diameter is a 9-inch plate.



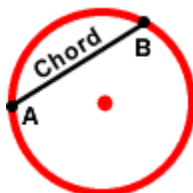
The **radius** of a circle is the distance from the center of a circle to any point on the circle. If you place two radii end-to-end in a circle, you would have the same length as one diameter. Thus, the diameter of a circle is twice as long as the radius.



We can look at a pizza pie to find real-world examples of diameter and radius. Look at the pizza to the right which has been sliced into 8 equal parts through its center. A radius is formed by making a straight cut from the center to a point on the circle. A straight cut made from a point on the circle, continuing through its center to another point on the circle, is a diameter. As you can see, a circle has many different radii and diameters, each passing through its center.



A **chord** is a line segment that joins two points on a curve. In geometry, a chord is often used to describe a line segment joining two endpoints that lie on a circle. The circle to the right contains **chord AB**. If this circle was a pizza pie, you could cut off a piece of pizza along chord AB. By cutting along chord AB, you are cutting off a segment of pizza that includes this chord.



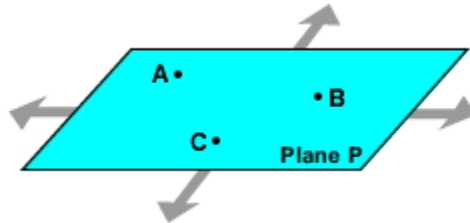
A circle has many different chords. Some chords pass through the center and some do not. A chord that passes through the center is called a diameter.



It turns out that a diameter of a circle is the longest chord of that circle since it passes through the center. A diameter satisfies the definition of a chord, however, a chord is not necessarily a diameter. This is because every diameter passes through the center of a circle, but some chords do not pass through the center. Thus, it can be stated, **every diameter is a chord, but not every chord is a diameter.**



A **plane** is a flat surface that extends without end in all directions. In the diagram to the bottom, Plane P contains points A, B and C.



A circle divides the **plane** into three parts:

- the points **INSIDE** the circle
- the points **OUTSIDE** the circle
- and the points **ON** the circle

