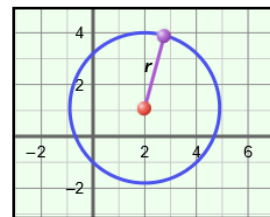# Vocabulary: Circles

📖 **Vocabulary**

- <u>Circle</u> – the set of all points the same distance from a given point, called the center of the circle.

  o For example, all (*x*, *y*) points on the circle shown to the right are *r* units from the center (2, 1).

- <u>Conic section</u> – a curve formed by the intersection of a plane, and one or two right circular cones.

  o For example, the intersection of the plane and the cone shown to the right is a circle.

Circle
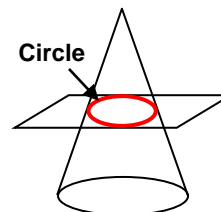
- <u>Distance formula</u> – a formula that can be used to find the distance, *d*, between two points with coordinates (x_1, y_1) and (x_2, y_2).

  o The distance formula is $d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$.

- <u>Pythagorean Theorem</u> – a theorem stating that, for any right triangle, $a^2 + b^2 = c^2$, where *a* and *b* are the lengths of the legs of the triangle and *c* is the length of the hypotenuse.
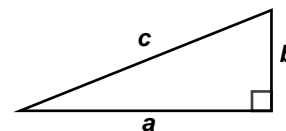
- <u>Radius</u> – a line segment with one endpoint at the center of a circle and the other endpoint on the circle.

  o The radius, *r*, of the circle shown above has a length of 3 units: *r* = 3.

- <u>Standard form of the equation of a circle</u> – the equation representing the set of points in the coordinate plane that are all the same distance, *r*, from a given point (*h*, *k*).

  o The standard form of the equation of a circle is $(x - h)^2 + (y - k)^2 = r^2$.

  o For example, a circle with center (2, 1) and a radius of 3 units has the equation $(x - 2)^2 + (y - 1)^2 = 3^2$.