

Area and Circumference of Circles

Great videos to help you visualize the concepts!

https://m.youtube.com/watch?v=cC0fZ_lkFpQ - what is pi?

<https://m.youtube.com/watch?v=0-cawByg2aA> - area and circumference

https://m.youtube.com/watch?v=2bQTK_85Ni4 - song

Vocabulary

A **circle** is a set of points equal distance from a center.

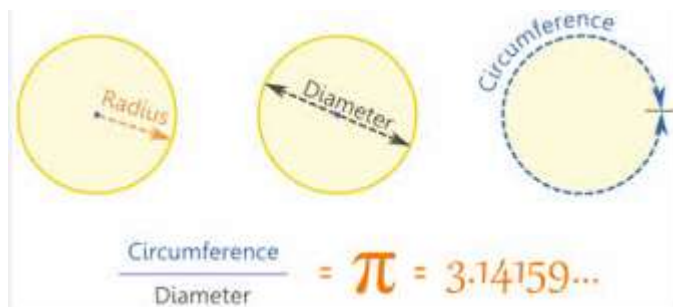
The distance across a circle through the center point is the **diameter** (d).

The distance from the center of a circle to its edge is the **radius** (r).

Circumference (C) is the one-dimensional measurement of the distance around the edge of the circle. It is measured in simple units (ft, in, etc.)

Pi (π) is the ratio of the circumference to the diameter. Its approximate value is $\frac{22}{7}$

Area (A) is the two-dimensional space inside the circle. It is measured in square units (sq.ft. or ft², sq.in. or in², etc.)



Formula for circumference:

$C = 2\pi r$ where r is the radius and π is approximately 3.14

Example:

Find the circumference of the circle with $r = 14$ ft.

$$C = 2 \cdot 3.14 \cdot 14 = 87.92 \text{ ft.}$$

Formula for area:

$A = \pi r^2$ where r is the radius and π is approximately 3.14

Example:

Find the area of the circle with $r = 4$ in.

$$A = 3.14 \cdot 4 \cdot 4 = 50.24 \text{ in}^2$$

Remember that area is measured in square units.