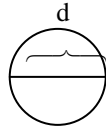
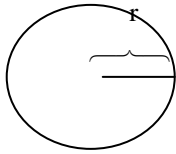


Area: Area of a circle

Recall, that a circle has a center, and a distance from the center to the circle (called the radius). Recall also that the radius is equal to half of the diameter (the diameter being the longest line segment passing through a circle [it passes through the center]).



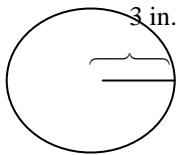
The area of a circle is given by the formula:

$$\boxed{A = \pi r^2} \quad \text{or} \quad \boxed{A = \frac{\pi d^2}{4}}$$

Where π is the ratio of the perimeter to the diameter. For convenience, you can substitute $\frac{22}{7}$ for π .

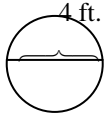
($\pi \approx 3.14159\dots$)

Example:



$$A = \pi r^2 = \left(\frac{22}{7}\right)(3in.)(3in.) = \frac{198}{7}in^2 = 28.3in^2$$

Example:



$$A = \frac{\pi d^2}{4} = \frac{\left(\frac{22}{7}\right)(4ft.)(4ft.)}{4} = \frac{88}{7}ft^2 = 12.6ft^2$$

- note: final answers have been rounded off.

Exercises: Find the areas of the following circles. (use $\frac{22}{7}$ for π).

- 1.) $r = 2in$, $A = ?$
- 2.) $r = 1ft$, $A = ?$
- 3.) $r = 3m$, $A = ?$
- 4.) $r = 4cm$, $A = ?$
- 5.) $r = 5km$, $A = ?$
- 6.) $d = 2mm$, $A = ?$
- 7.) $d = 1in$, $A = ?$
- 8.) $d = 5ft$, $A = ?$
- 9.) $r = 7m$, $A = ?$
- 10.) $r = 9cm$, $A = ?$