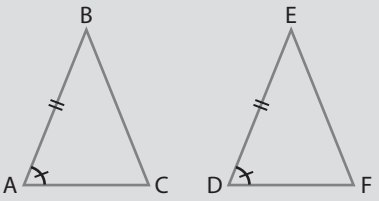
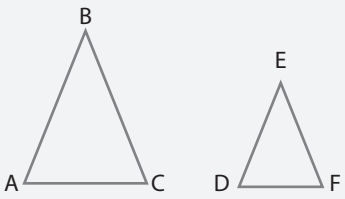
Mathematics: TRIANGLES & CIRCLES

Congruency



$ABC \cong DEF$
$\angle A \cong \angle D$
$AB \cong DE$

Similarity



$ABC \sim DEF$

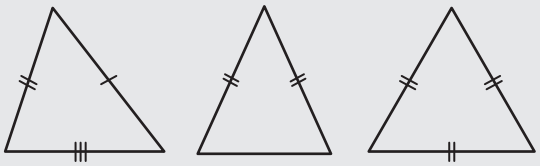
$$\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$$

Sectors and Arcs

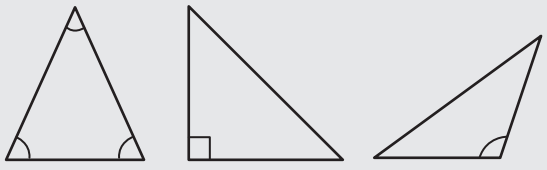
Sector area	Arc length
$A = \frac{\theta}{360^\circ}\pi r^2$	$s = \frac{\theta}{360^\circ}2\pi r$
$A = \frac{1}{2}\pi^2\theta$	$s = r\theta$

Types of Triangles

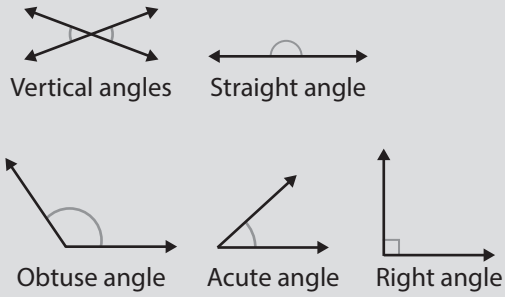
Triangles based on sides



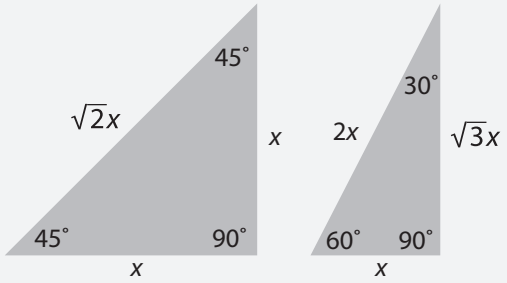
Triangles based on angles



Types of Angles



Special Right Triangles

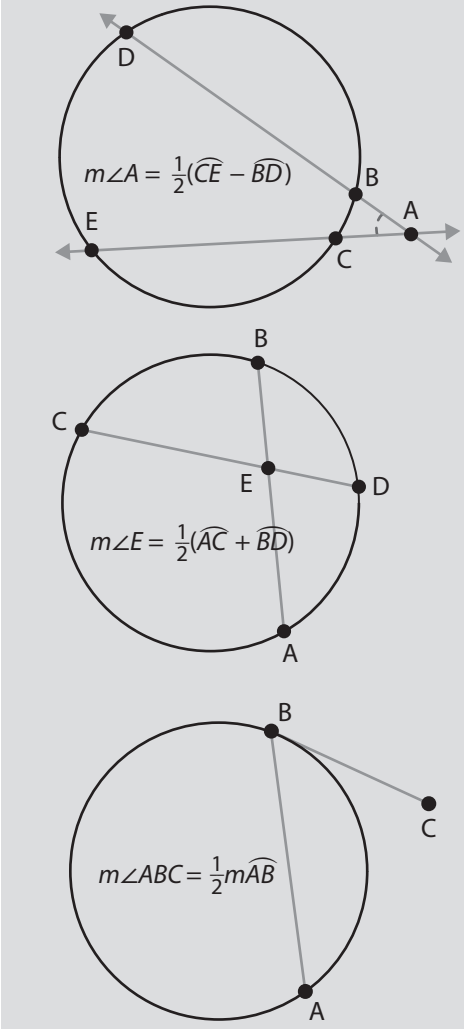


Distance and Midpoint

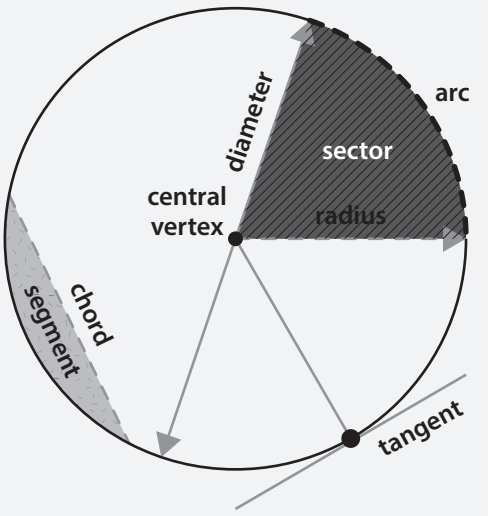
$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

$$M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

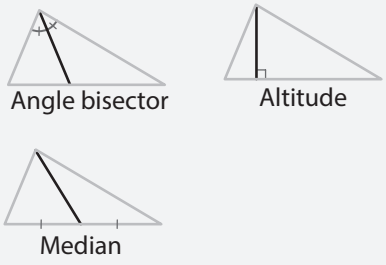
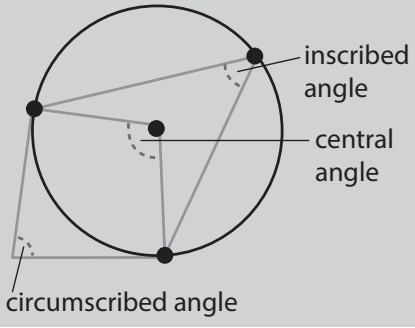
Finding Angles in a Circle



Parts of a Circle



Triangle Segments



Angles in a Circle