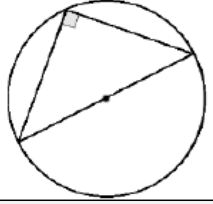
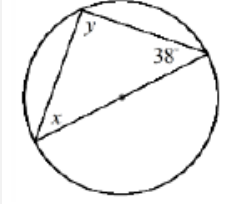
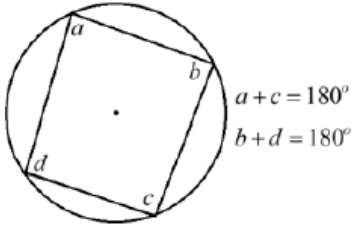
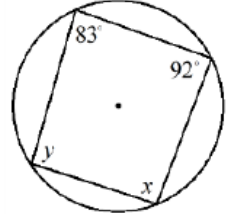
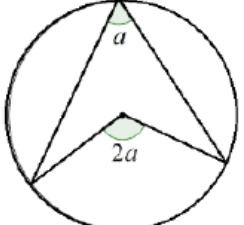
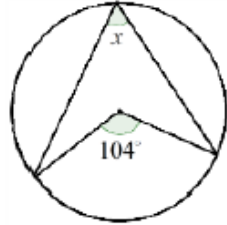
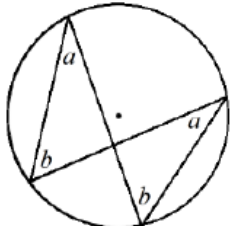
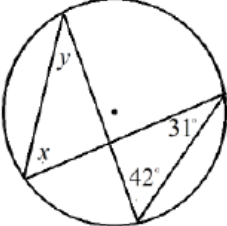
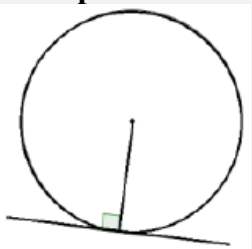
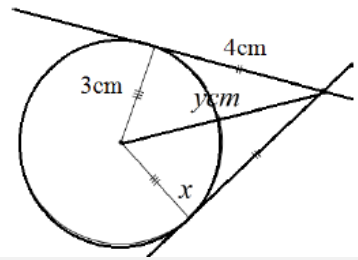
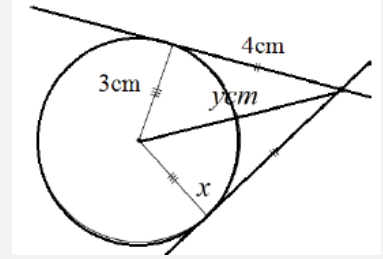
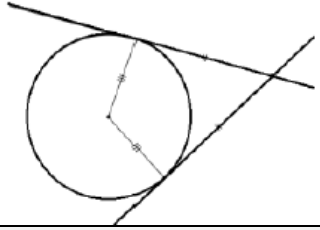


## Topic: Circle Theorems

Topic/Skill	Definition/Tips	Example
Circle Theorem 1	<p><b>Angles in a semi-circle have a right angle at the circumference.</b></p> 	 $y = 90^\circ$ $x = 180 - 90 - 38 = 52^\circ$
Circle Theorem 2	<p><b>Opposite angles in a cyclic quadrilateral add up to <math>180^\circ</math>.</b></p> 	 $x = 180 - 83 = 97^\circ$ $y = 180 - 92 = 88^\circ$
Circle Theorem 3	<p><b>The angle at the centre is twice the angle at the circumference.</b></p> 	 $x = 104 \div 2 = 52^\circ$
Circle Theorem 4	<p><b>Angles in the same segment are equal.</b></p> 	 $x = 42^\circ$ $y = 31^\circ$
Circle Theorem 5	<p><b>A tangent is perpendicular to the radius at the point of contact.</b></p> 	 $y = 5\text{cm (Pythagoras' Theorem)}$

Circle  
Theorem 6

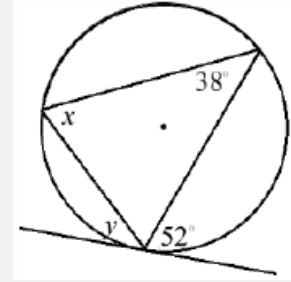
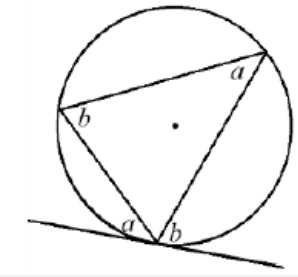
**Tangents from an external point at equal  
in length.**



$$x = 90^\circ$$

Circle  
Theorem 7

**Alternate Segment Theorem**



$$x = 52^\circ$$

$$y = 38^\circ$$