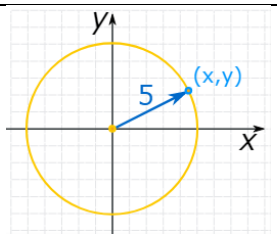
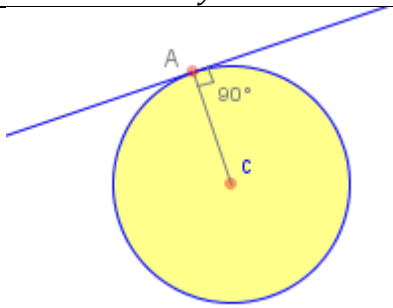
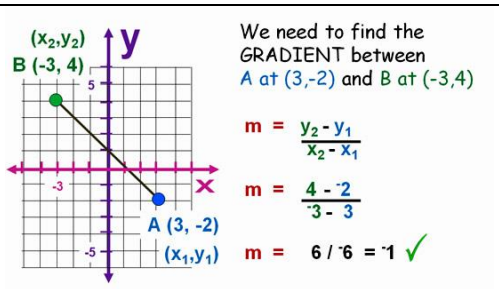
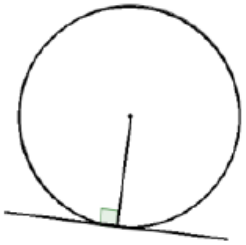
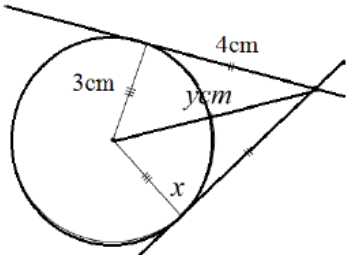
Topic: Equation of a Circle and Tangent

Topic/Skill	Definition/Tips	Example
1. Equation of a Circle	The equation of a **circle**, **centre (0,0), radius r**, is: $x^2 + y^2 = r^2$	 $x^2 + y^2 = 25$
2. Tangent	A straight **line** that **touches** a circle at **exactly one point**, never entering the circle's interior. A **radius** is **perpendicular** to a **tangent** at the **point of contact**.	
3. Gradient	**Gradient** is another word for **slope**. $G = \frac{Rise}{Run} = \frac{Change\ in\ y}{Change\ in\ x} = \frac{y_2 - y_1}{x_2 - x_1}$	
4. Circle Theorem 5	**A tangent is perpendicular to the radius at the point of contact.** 	 $y = 5cm$ (Pythagoras' Theorem)