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| **Topic/Skill**  | **Definition/Tips** | **Example****Topic: Circle Theorems**  |
| Circle Theorem 1 | **Angles in a semi-circle have a right angle at the circumference.** | $$y=90°$$$$x=180-90-38=52°$$ |
| Circle Theorem 2 | **Opposite angles in a cyclic quadrilateral add up to 180°.** | $$x=180-83=97°$$$$y=180-92=88°$$ |
| Circle Theorem 3 | **The angle at the centre is twice the angle at the circumference.** | $$x=104÷2=52°$$ |
| Circle Theorem 4 | **Angles in the same segment are equal.** | $$x=42°$$$$y=31°$$ |
| Circle Theorem 5 | **A tangent is perpendicular to the radius at the point of contact.** | $y=5cm $(Pythagoras’ Theorem) |
| Circle Theorem 6 | **Tangents from an external point at equal in length.** | $$x=90°$$ |
| Circle Theorem 7 | **Alternate Segment Theorem** | $$x=52°$$$$y=38°$$ |

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| **Topic/Skill**  | **Definition/Tips****Topic: Equation of a Circle and Tangent**  | **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**. | Image result |
| 3. Gradient | **Gradient** is another word for **slope**.$$G= \frac{Rise}{Run}= \frac{Change in y}{Change in x}= \frac{y\_{2}-y\_{1}}{x\_{2}-x\_{1}}$$ | Image result for gradient maths example |
| 4. Circle Theorem 5 | **A tangent is perpendicular to the radius at the point of contact.** | $y=5cm $(Pythagoras’ Theorem) |

**Knowledge Organiser**