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| **P, Q and R are points on the circumference of a circle, centre, O.**  **The straight line POS has been drawn to help you.**  **Prove that Angle QOR is twice the size of angle QPR** | | **Prove that** | **Prove algebraically that the sum of the squares of any two consecutive odd numbers cannot be a multiple of 4.** |
| **Prove that is a multiple of 8 for all integer values of n.** | **Prove algebraically that the difference between the squares of any two consecutive even numbers is always a multiple of 4.** | **Prove that the product of any two odd numbers is always odd.** | **How can you represent the following algebraically?**   1. **Two consecutive numbers** 2. **Two odd numbers** 3. **Two consecutive odd numbers** |
| **How can you represent the following algebraically?**   1. **An even number** 2. **An odd number** 3. **A multiple of 3** | **Jordan thinks that the sum of any 3 consecutive numbers is always a multiple of 3.**  **Test to see if she is right.**  **Now prove it.** | **PR and QS are two chords of a circle that meet at the point T.**  **Prove that triangles PTS and QTR are similar.**  **Given that PT = 3cm, TR = 8cm, and QT = 4cm, calculate the length ST.** | |