**STELLENBOSCH MATHS CAMP TEST**

**Total: 70 marks**

1. Three parties contest an election with 100 000 voters who all cast valid votes. The winning party is the one that obtains more votes than either of the other two parties. What is the smallest possible number of votes a party needs to win the election? **[4]**

2. Which of the following has the largest value?

 **[4]**

3. The wheels of a car has radius 70cm. How many revolutions does each wheel make while the car travels 100m? (Round your answer to the nearest integer). **[4]**

4. Given

Which of the four quantities *a, b, c* and *d* is the largest? All working out must be shown. **[7]**

5. Place ten crosses in the 5x5 grid shown so that no row, column or diagonal contains more than two crosses. **[7]**

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6. Mrs Schoombee asks the five learners in her mathematics class how many of them attended the choir practice the night before.

Nonhlanhla replied: none of us attended

Sayuri replied: one of us attended

Carmel replied: two of us attended

Margaret replied: three of us attended

Gita replied: four of us attended

Mrs Schoombee knows that those who did not attend lie and that those who did attend speak the truth. How many learners attended the choir practice? **[8]**

7. John is three times as old as Paul will be next year. In 12 years’ time, Ringo will be three times as old John is now, and he is now eight times as old as Paul is. What is Ringo’s present age? **[8]**

8. PQRS is a straight line. There are six triangles in the figure, and the smallest one is  the area of the largest. If the smallest triangle has area 1, find the average area of all six triangles. **[8]**



9. Consider the pattern below:



What is the number at the end of row 80? **[10]**

10. A goat is tied to a 10 metre long rope which is tied to the corner of a building which is in the shape of a regular pentagon. If each side of the pentagon is 6 metres, what is the maximum grazing area of the goat in square metres? Round your answer off to the nearest integer. **[10]**