**MATHEMATICS**

**GRADE 9**

**INVESTIGATION**

**(INVESTIGATE HOW DOUBLING ALL DIMENSIONS OF RECTANGLE AFFECTS THE VOLUME)**

**2018**

**MARKS: 50**

INSTRUCTIONS:

You have to design a box.

This box:

* Must be able to hold 36 cubes with dimension
* Must have a volume of .
* Must use the least possible material.

QUESTIONS:

1. Write the possible dimensions of the box, use for the length, for the base and

for the length.

1. Using the dimensions in question 1 above, draw a sketch of the net.
2. Clearly indicate the dimensions on the net. Remember to put in “tabs”
3. Cut out the net and build the box.
4. Determine the volume of the box.
5. Double all the dimensions of box and then determine the volume of the new box.
6. Compare the volume of the original box and the new box.