**NIGEL SECONDARY SCHOOL**

**DATE:**

**TOTAL: 50 MARKS**

**GRADE: 7**

**SUBJECT: MATHEMATICS**

**TERM 2**

**FORMAL ASSESSMENT TASK (FAT)**

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Class: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Educator: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
| **FAT** | **ACTIVITY/FORM** | **Learner’s point** | **Learner %** |
| 2.2 | INVESTIGATION |  |  |
| **TOTAL** | |  |  |

**MATHEMATICS GRADE 7 FORMAL ASSESSMENT TASK (FAT):**

**PERIMETER AND AREA OF TWO-DIMENSIONAL SHAPE**

**INVESTIGATION**

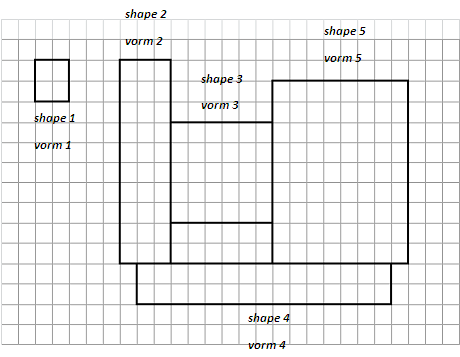
**Total: 50 Marks Time: 1 Hour 30 minutes**

Instructions:

1. Answer all the questions.
2. Write your name and date.
3. No calculators allowed.
4. Show calculations as requested on question paper..
5. The marks allocated are an indication of the number of steps per calculation.
6. Check your answers.

**Question 1**

In this question you will use graph paper to calculate the perimeter and area of each shape. (The shapes are numbered 1 – 5). Copy the forms onto the graph paper and calculate the perimeter and area of each. **(EDUCATOR WILL PROVIDE GRAPH PAPER)**



|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Name of form** | **Perimeter (cm)** | **Area** **(cm²)** |
| **1** | Square |  |  |
| **2** | Rectangle |  |  |
| **3** | Rectangle |  |  |
| **4** | Rectangle |  |  |
| **5** | Rectangle |  |  |
|  |  | (1 x 5) | (1 x 5) |
|  |  |  | **[10]** |

1.2 Draw a conclusion between the relationship of perimeter and area of the above-mentioned shapes. (2)

Give reasons.

……………………………………………………………………………………………………………………………………………………….

……………………………………………………………………………………………………………………………………………………….

1.3 Draw a shape with precisely the same perimeter and area on the provided grid paper. (3)

**[15]**

**Question 2**

2.1 A grade 7 class went on a tour to explore plant and insect species in nature.

Look at the sketch with attached scale and investigate how far they travelled.

D

C

B

A

H

G

F

E

1:100

1 mm = 100m

a) What is the real/actual distance from E to B? (clockwise)................................................................. (1)

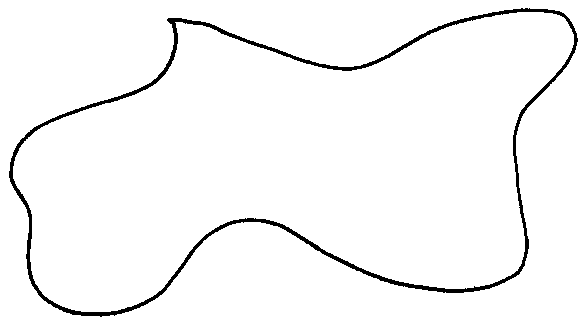
b) What is the real/actual distance from B to D? (clockwise)................................................................. (1)

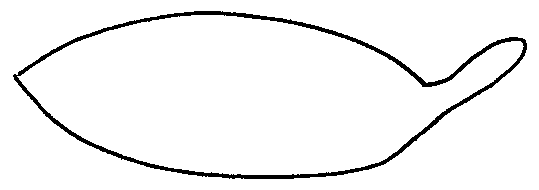
c) If the bus travels at 110 km / h, how long will it take to drive from A to F without stopping anywhere? **(Show all your calculations)**

**Do your answer:**

(4)

d) How would you determine the perimeter of these shapes?

a) b)



Answer:

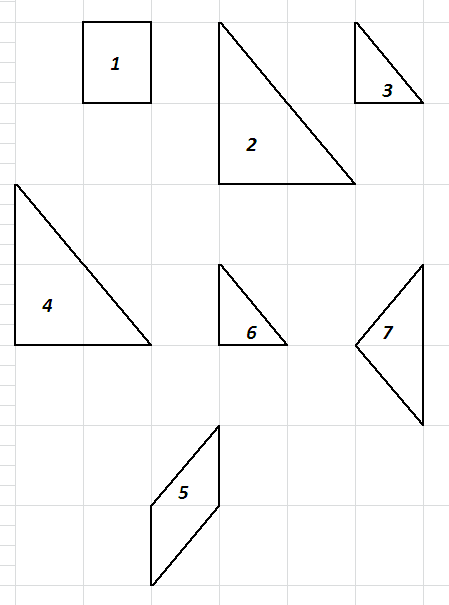
[1]

**[7]**

**Question 3**

The following figures represent a tangram. The area of each block/part is equal to **4 (2cm x 2cm) square units.**

1. Complete the attached table by using your knowledge on perimeter and area. One row has been completed for you.



|  |  |  |
| --- | --- | --- |
| **No.** | **Name** | **Area** |
| **1** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** |  |  |
| **5** |  |  |
| **6** | Isosceles Triangle | 2 cm² |
| **7** |  |  |
|  | (1 x 6) | (1 x 6) |
|  |  | (12) |

1. Explain the strategy you used to calculate the area of **PART 5.** (2)

**Do your answer:**

1. This is a representation of inherited land that was distributed amongst three sons. Is this a fair distribution of the land?

8 km

4 km

4 km

4 km

8 km

2 km

**Motivate your answer and do all your calculations**

(4)

**[18]**

**Question 4**

a) If every square is 1 cm2, what is the area of the shaded parts?

**Do your calculations:**

(2)

1. Calculate the parts shaded as a common fraction and simplify.

(2)

1. Which shape has the bigger area A or B?

**A**

**Do your calculations:**

(3)

**B**

**PROBLEM SOLVING**

1. Calculate the area of the following shape.

3 m

4 m

2 m

3 m

10 m

**Do your calculations:**

(3)

**[10]**

**TOTAL = 50 MARKS**