

**Mathematics**

**21/10/2019**

**8h30 am -11h30am**

**SENIOR TWO END OF YEAR EXAMINATIONS, 2019**

**SUBJECT: MATHEMATICS**

|  |
| --- |
|  **/100** **Marks:** |

**DURATION: 3 HOURS**

**INSTRUCTIONS:**

1. Do not open this question paper until you are told to do so.
2. Answer all questions: **100 marks**

 5) Use only a **blue** or **black** pen.

**S2MATH END OF YEAR EXAM,2019 (100 MARKS)**

**1)Evaluate**  (**3marks)**

2) If Set A = {1, 2,3,4,5}, and Set B = {3, 4, 5, 6,7,8}**(4marks)**

a)Find the 

 b) 

**3)**Rationalize **( 5marks)**

**4)** Simplify the following

**( 5marks)**

5)Solve for a the following : **(6marks)**

6) Find the roots of the following equation (**6marks)**

7)Solve the following **( 5marks)**



**8)** The sum of two number is 14 and their difference is 2. Find the numbers. **(8marks)**

9)In triangle ABC, seg AD is the angle bisector of∠BAC. BD=6cm, DC=8cm, AB=15cm. Find AC **(6marks)**



**10)** Calculate the hypotenuse of the triangle with sides of 3cm and 4 cm. (**6marks)**

**11)If**  and  are two vectors such that  and 

Workout the following:

i)  (**4marks)**

ii) (**4marks)**

iii)Magnitude ofor (**4marks)**

12)40 people in a restaurant are asked if they like tea or coffee. It was found that 26 liked tea, 28liked coffee and 16liked both.

a) Show this information using the Venn diagram **( 4marks)**

b) How many liked

i)Tea only (**3marks)**

ii)Coffee but not tea **(4marks)**

iii)Neither tea nor coffee **(4marks)**

13)A bag contains 3 red and 7 white balls.What is the probability that ,when I pick one ball out , it is red ball? **( 4marks)**

14) The table below shows the distribution of results obtained by S1 Students in French Test out of 10

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 4 | 5 | 6 | 7 | 5 | 6 |
| 6 | 7 | 8 | 7 |  | 7 |
| 7 | 7 | 7 | 7 |  |  |

a)Complete the frequency table below:**(7marks)**

|  |  |  |
| --- | --- | --- |
| Marks , | Frequancy ,  |  |
| 4 | 1 |  |
|  |  |  |
|  |  |  |
|  |  |  |
| 8 | 1 |  |
|  |  |  |

b)Calculate the mean marks (**3marks)**

c)Determine the mode result of the distribution and explain your answer the mode (**2marks)**

d)what is the highest result (**1mark)**

e) What is the lowest result**? (1mark)**

f) How many students did they pass the test (**1mark)**