Candidate's No. .....

THE UNITED REPUBLIC OF TANZANIA
MINISTRY OF EDUCATION AND VOCATIONAL TRAINING
FORM TWO SECONDARY SCHOOL EXAMINATION, 2007

0041 BASIC MATHEMATICS

TIME: 2½ HOURS

INSTRUCTIONS

1. This paper consists of sections A and B.
2. Answer **ALL** questions in both sections showing clearly all the working and answers in the spaces provided.
3. Write your examination number on the top right hand corner of every page.
4. Mathematical tables, geometrical instruments and graph papers may be used where necessary.
5. Calculators and Cellphones are not allowed in the examination room.

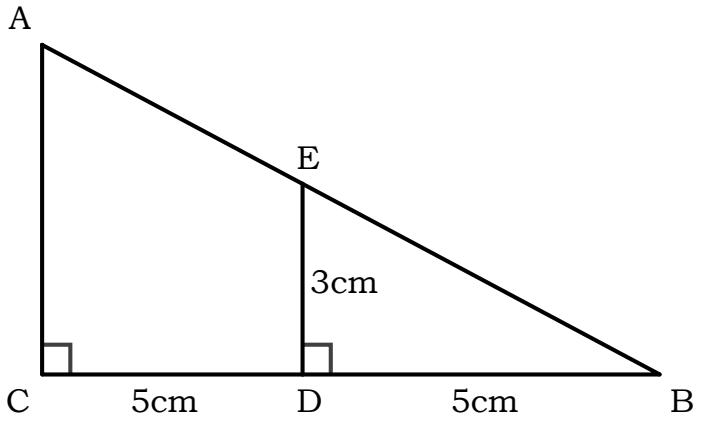
FOR EXAMINER'S USE ONLY		
QUESTION NUMBER	**SCORE**	**INITIALS OF EXAMINER**
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TOTAL		

This paper consists of 12 printed pages.

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SECTION A (60 MARKS)

1.	Which is greater $\frac{5}{6}$ or $\frac{6}{9}$?
2.	The average of scores in three subjects is 33. If the average of scores in two subjects is 16. Find the score of the third subject.
3.	Estimate 521 to the nearest hundreds and 29 to the nearest tens. Hence find the product of the estimations.

4.	Find the length of $\overline{AC}$ in the figure below if $\overline{BD} = 5\text{cm}$, $\overline{DC} = 5\text{cm}$ and $\overline{DE} = 3\text{cm}$. 
5.	Without using mathematical tables evaluate $2\log 5 + 4\log 2 - \frac{1}{3}\log 64$.

6.	A rope of 18m and 80cm is to be divided into four equal parts. How long will each part be? (Give your answer in metres and centimetres)
7.	Simplify $(144 + 20) \times 48 + 4 \div 2$
8.	The area of a trapezium is 4000cm^2. If one of the parallel sides is 80cm and the height of the trapezium is 40cm, find the length of the other parallel side.

9.	Express 0.125 as a percentage.
10.	An equilateral triangle of sides a, b, and c has a perimeter of 105m. Find the length of side c.
11.	If a:b = 4:9 and b:c = 3:7, evaluate a:c.

12.	The sum of two integers is 6 and their difference is 4. Find the integers.
13.	If $\frac{a-2b}{a+2b} = 2$, calculate the value of $\frac{a}{b}$.

14.	Factorize completely $9t^2 - 16r^2$.
15.	Find the images of B (3, 4) under a reflection in the y – axis and x – axis.
16.	Find m if $(1 * 3) * m = 18$, given that $a * b = a^2 + b^2$

17.	The sides of a rectangle are $(2-\sqrt{3})$cm and $(2+\sqrt{3})$cm. Find the length of its diagonal.
18.	Simplify by rationalizing the denominator of $\frac{\sqrt{5}}{\sqrt{5}+\sqrt{3}}$

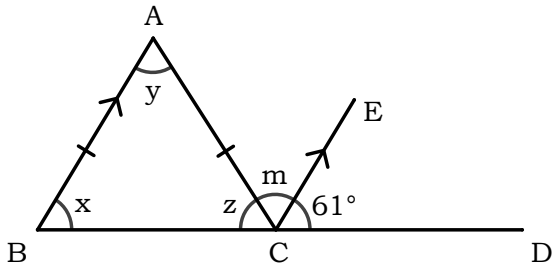
19.	Given that $\sin A = \frac{3}{5}$ where A is an acute angle. Find the value of $-\cos A + 1$
20.	Find the solution of the following inequality and locate it on a number line. $\|4x - 9\| \leq 3$.

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SECTION B (40 MARKS)

21.	There are 24 people at a meeting; 12 are farmers, 18 are soldiers and 8 are both farmers and soldiers. Use formula to answer the following questions. (i) How many are farmers or soldiers?
	(ii) Home many are neither farmers nor soldiers?
22.	Solve the following equation by using the quadratic formula $\frac{x(x-4)}{3} = -1$

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23.	In the figure below, find the value of x, y, z, and m. 
24.	If the line joining the points $A(k, 5+k)$ and $B(2k, 2)$ has a gradient of 2. Find the coordinates of the given points.

25. The table below shows the masses in kilogrammes of Form one students at Mtakuja Secondary School

Class Interval	41 – 45	46 – 50	51 – 55	56 – 60	61 – 65	66 – 70
Frequency	3	8	13	11	7	3

(i) Find the total number of students

(ii) Draw a frequency polygon and histogram on the same axes

