INTERNATIONAL TEACHERS TRAINING COLLEGE

2011/2

MATHEMATICS

PAPER 2

Mock 1

February 2020

MARKING SCHEME

PRIMARY TEACHER EDUCATION

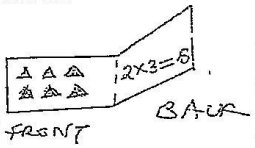
MATHEMATICS

(Paper 2)

MARKING SCHEME

(CONFIDENTIAL)

This marking scheme consists of 8 printed pages.

No.		Score	Comments
	SECTION A		
1.	◦ Take 10 bundles of ten sticks in each bundle and lead learners to recognise one hundred ◦ Place one loose stick to the bundle of one hundred sticks. Say "one hundred and one". Let learners call out "one hundred and one". ◦ Show the number card 101 and say "one hundred and one". Let the learners show the number card 101 and call out "one hundred and one" ◦ Write 101 on the chalkboard. Let learners practice writing 101 on the chalkboard and in their exercise books.	1 1 1 1 4	
2.	◦ Cut out a rectangular card from a manilla paper/carton paper/hard paper. ◦ Draw pictures of objects in rows and columns, on the front part. ◦ Write the multiplication sentence representing the number of objects in the rows and columns on the back of the card with the answer shown.	1 1 1 3	Award one mark if only picture/flash card shown 
3.	◦ Convert 5 tonnes into kg to get $5 \times 1000\ Kg = 5000\ Kg$ ◦ Divide 5000 kg by 2.5 kg to get $\frac{5000}{2.5} = 2\,000$ families	1 1	
		2	
4.	◦ Multiplying the divisor and the dividend by different powers of ten when making the divisor a whole number.	2 2	
5.	◦ Join PS to get the other side of the parallelogram. ◦ Using the length of PS and centre Q, mark an arc. ◦ Using the length of PQ and centre S, mark an arc to intersect the other arc at R. ◦ Join SR and QR to complete the parallelogram PQRS.	1 1 1 1 4	Allow 1 mark for correct parallelogram drawn without construction marks at R or without explanation.

No.		Score	Comments
6.	◦ Emphasize on working out what is written in the bracket first then squaring the sum to show that $(a+b)^2 \neq a^2+b^2$ where a and b are constants.	2	
		2	
7.	◦ Provide learners with ruler marked in centimetre and let them examine the ruler. Lead learners to note that from one number to the next is one centimetre and show that a centimetre is written as **cm**.	1	Equivalent
	◦ Let learners measure length using centimetres by aligning the zero mark with the end-point of the line being measured and reading the number shown at the other end of the line.	1	
		2	
8.	◦ Choose a suitable scale to fit all the data on both axes.	1	Allow 1 mark for correct graph drawn and labelled
	◦ Draw bars of the same width and evenly spaced. The heights of the bars should correspond to the information given.	1	
	◦ Label both axis.	1	
		3	
9.	◦ Calculate the percentage sold when loss is made to get $100\% - 10\% = 90\%$.	1	Award 1 mark for correct working done
	◦ Calculate the buying price equivalent to 100% $\text{Ksh } 72 \times \frac{100}{90} = \text{Ksh } 80$	1	
	◦ Calculate the percentage that gives 20% profit to get $(100+20)\% = 120\%$.	1	
	◦ Calculate the selling price to get $\text{Ksh } 80 \times \frac{120}{100} = \text{Ksh } 96$	1	
		4	
10.	◦ Find prime factors of 48, 60 and 72 as $48 = 2^4 \times 3$, $60 = 2^2 \times 3 \times 5$, $72 = 2^3 \times 3^2$	1	
	◦ Identify common factors as $2^2 \times 3$.	1	
	◦ Multiply $2^2 \times 3$ to get 12.	1	
		3	
11.	◦ What is the size of the angles of triangle TXU?	1	Equivalent 1 mark for $90°, 45°, 45°$ name; isosceles - right angled
	◦ What name is given to triangle TXU?	1	
		2	

No.		Score	Comments
12.(a) (b)	An orange • Cut an orange into 4 equal pieces. • Identify each piece as $\frac{1}{4}$ or a quarter of the whole. Write one quarter as $\frac{1}{4}$.	1 1 1 3	Equivalent
13.	• Construct an angle of 90°. • Construct an angle of 60° adjacent to the 90° to get an angle of 150°. • Bisect the angle of 150° to get an angle of 75°.	1 1 1 3	Accept any construction whose combination adds up to 75°.
14.	$c = \pi d$ $88 = \frac{22}{7} \times d$ $d = \frac{88 \times 7}{22} = 28$ $r = 14\,cm$ $Volume\ \pi r^2 h = \frac{22}{7} \times 14 \times 14 \times 20\,cm^3$ $= 12\,320\,cm^3$	1 1 2	
15.(a) (b)	• Wrong alignment of the number 49 of ones and tens. • Subtraction of 4 from 6 instead of from 8. • Align the digits according to their place values. • Emphasize on reducing the number from which the borrowing was done.	1 1 1 1 4	684 −49 635
16.	• Calculate the total number of vehicles 18 +22 + 12 + 20 = 72 vehicles. • Calculate the angle representing each type of vehicle Buses $= \frac{18}{72} \times 360° = 90°$ Cars $= \frac{22}{72} \times 360° = 110°$ Lorries $= \frac{12}{72} \times 360° = 60°$ Matatus $= \frac{20}{72} \times 360° = 100°$ • Draw a circle and divide it into sectors showing the number of degrees for each type of vehicle. • Label each sector appropriately.	1 1 1 1 4	for all correct

No.		Score	Comments
17.	◦ Cut out a square of side 1 cm . ◦ Arrange the square centimetre cut outs to cover the whole rectangle. ◦ Count the number of squares used to fill the rectangle. ◦ Lead learners to realise that 12 cm^2 represents the area of the rectangle and 3 cm × 4 cm = 12 cm^2.	1 1 1 1 4	
18.	$21x - 10 + 10 < 12x + 17 + 10$ add 10 both sides $21x < 12x + 27$ $21x - 12x < 12x - 12x + 27$ subtract $12x$ from both sides $9x < 27$ $\frac{9x}{9} < \frac{27}{9}$ divide both sides by 9 $x < 3$	1 1 1 3	
19.	d | a | b | c	2 2	For all correct order
20.	◦ Identify the right angles in the rectangle. ◦ Identify the right angled triangle with measurements of the two sides. ◦ Identify the hypotenuse and one side of the right angled triangle. ◦ Apply Pythagorean relationship to find the length of the missing side $c = \sqrt{65^2 - 25^2} = 60\,m$	1 1 1 1 4	