PRE PLE SET ONE

MTC GUIDE

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PRE PLE SERIES(10) sets

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SECTION A: 50 MARKS

Questions **1** to **20** carry **two** mark each.

1. Work out 24 plus 47 vertically.

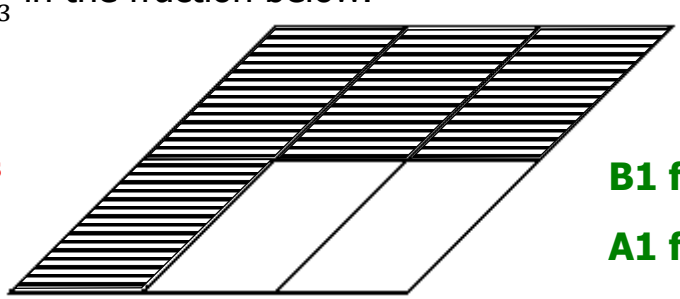
2 4
+4 7
7 1

B1 for vertical arrangement

B1 for 71

2. Shade $\frac{2}{3}$ in the fraction below.

$\frac{2}{3} \times 6$
2x2
4 parts



B1 for 4 parts

A1 for correct shading

3. Atim shared apples among her children. Ojangole got the apples represented below. Given  represents 12 apples, Calculate the number of apples he got.

(5 × 12)
60 apples

B2 for 60 apples

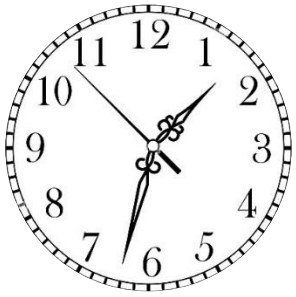
4. Busaabala road is 72,400 meters long. How many kilometers is that road?

1000 m = 1 km
72,400 m = 72400
1000
72.4 km

B1 for correct method

A1 for correct answer

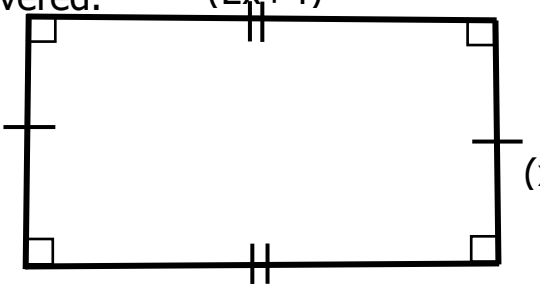
5. Kanyakole reached home at the time shown on the clock face below. If he arrived in the afternoon hours. Tell his arrival time in words.



B2 for correct time

Kanyankole reached home twenty-eight minutes to two o'clock in the afternoon

6. An ant ran around a rectangular block below five times. Calculate the distance it covered.



Distance = 2(L + W)
2(2x+ 4+x+2)
4x + 8+2x+4
6x+12
5 times
5(6x+12)
30x + 60

M1 for correct method

A1 for 30x + 60

7. Find the product of the next number in the sequence below and 7

1, 3, 5, 7, **9**

Product by 7 =9x7

63

B1 for 9

B1 for 63

8. Abooki went shopping with three notes of five thousand shillings and bought a dress at twelve thousand shillings. Calculate the change she took back home.

Amount = 3 × Sh. 5000

Sh. 15000

Change Sh. 15000

– Sh. 12000

Sh.0 3000

She went back home with a change of Sh. 3000

M1 for correct method

A1 for Sh. 3000

9. Change 201_{three} to base ten.

$(2x3^2)+(0x3^1)+(1x1^0)$

$(2x3x3)+(0x3)+(1x1)$

$6 + 0 + 1$

$18 + 1$

19_{ten}

M1 for correct method

A1 for 19_{ten}

10. Atwine is 82 years old. If her daughter is half her age, find the sum of their age and write it in Roman numerals.

Daughters age

82years

2

41 years

Atwine =8 2 years

Daughter=+4 1 years

1 2 3years

123 =CXXIII

B1 for 123 years

B1 for CXXIII

11. Workout the L.C.M of 5 and 12.

Multiples of 5 {1,10,15,20,25,30,35,40,45,50,55,60…}

Multiples of 12 {12,24,36,48,60,72,84…}

∴ LCM OF 5 and 12 is 60

M1 for correct method

A1 for 60

12. Better wording: A pot holds twenty litres of tea. Nabanwabo serves tea to her clients using a half-litre cup. How many cups can she serve from the pot?

$20 \div \frac{1}{2}$

$\frac{20}{1} \times \frac{1}{2}$

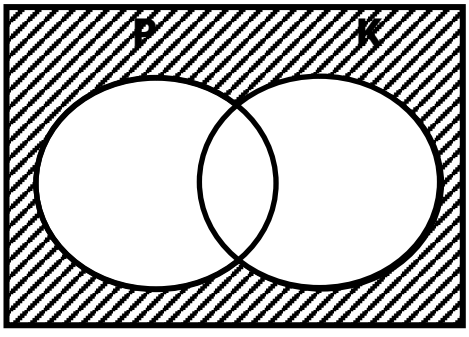
20×2

40 cups of half litre

B1 for correct method

B1 for 40 cups

13. Write the set region shaded below.



(PUK)'

B2 for (PUK)'

14. Round off 432.437 to the nearest tenth.

M1 for correct method

A1 for correct answer

$$\begin{array}{r} 432.4 \\ +000.0 \\ \hline 432.4 \end{array}$$

$\therefore$ **432.437≈432.4**

15. There are 13 girls and 12 boys in Primary Seven. Teacher Mwiru wants to send one pupil to pick chalk. What is the probability of sending a girl?

$$\text{Probability} = \frac{n(E)}{n(SS)}$$

B1 for 25

B1 for $\frac{13}{25}$

$$\frac{\text{girls}}{\text{Girls+ boys}}$$

$$\frac{13}{13+12}$$

$$\frac{13}{25}$$

16. Blitz gave out six hundred thirty-nine banana suckers to Mwididi, Ainembabazi, and Kakuru. How many banana suckers did Kakuru get if they shared equally?

M1 for dividing correctly

A1 for 213 suckers

$$\begin{array}{r|l} & 213 \\ \hline 3 & 639 \\ 2\times3 & \underline{6}\downarrow \\ & 03 \\ 1\times3 & \underline{3} \\ & 09\downarrow \\ & \underline{9} \\ 3\times3 & \underline{9} \\ & 000 \end{array}$$

$\therefore$ **Kakuru got 213 banana suckers**

17. Write the number expanded below

$(4 \times 10^3) + (2 \times 10^2) + (7 \times 10^1) + (3 \times 10^0)$

M1 for correct expansion

A1 for 4273

4X1000 + 2X100 + 7X10 + 3X1

4000+200+70+3

$$\begin{array}{r} 4000 \\ +200 \\ 70 \\ \underline{3} \\ 4273 \end{array}$$

18. Calculate the average of 2b, 3k, 5b, and 2k

Average = sum of data / No. of data

$$\frac{2b + 3k + 5b + 2k}{4}$$

$$\frac{2b+5b+3k+2k}{4}$$

$$\text{Average} = \frac{7b+5k}{4}$$

B1 for correct method

B1 for correct answer

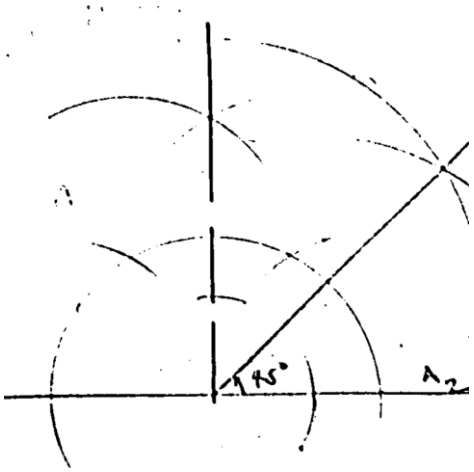
19. Given digits 7, 0, 8, 2, and 4, write the smallest and largest number which can be formed.

Smallest 20478
Biggest 87420

B1 for 20478

B1 for 87420

20. In the space below, construct an angle of 45°.



C1 for correct arcs

C1 for 45^0 on sight

SECTION B: 60 MARKS

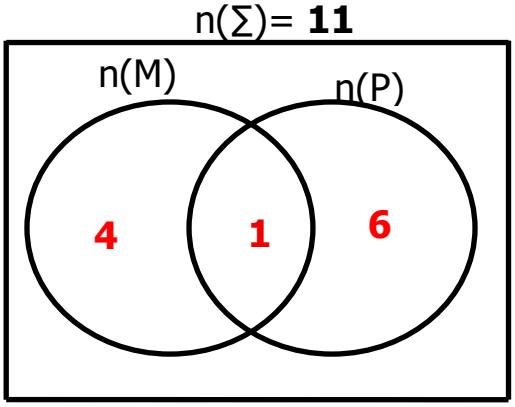
21. Set M is a set of square numbers below 36.
Set P is a set of even numbers below 14.

(a) List the elements of set M and set P *(02 marks)*

M = {1, 4, 9, 16, 25}
P = {0,2, 4, 6, 8, 10, 12}

B1 for M **B1 for P**

(b) Show the above information on the Venn diagram below. *(03 marks)*

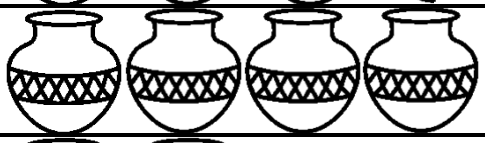
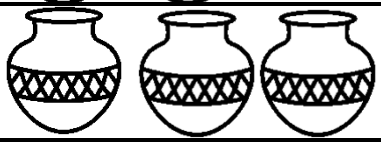


B1 for 4

B1 for 1

B1 for 6

22. The pictograph below shows Primary Seven pupils who carried their pots on Cultural Exhibition Day. Use it to answer the questions that follow:

Pupils	Pots carried
Carl	
Kakembo	
Azawi	
De - Shaba	
Ekakwa	

KEY

 Represents 14 pots

(a) How many pots did Carl carry? *(01 mark)*

Carl: (14 × 3) + 7
42 + 7
49 pots

B2 for 49 pots

(b) How many more pots did Kakembo carry than Ekakwa? *(02 marks)*

Kakembo: (14 × 4)
56 pots
Ekakwa: (14 × 1) + 7
14 + 7
21 pots
Difference = 56 – 21
35 more pots

M1 for correct method

A1 for 35 more pots

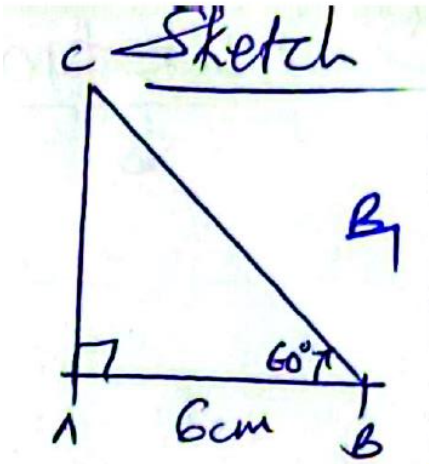
(c) Work out the sum of pots which were carried by all pupils. *(02 marks)*

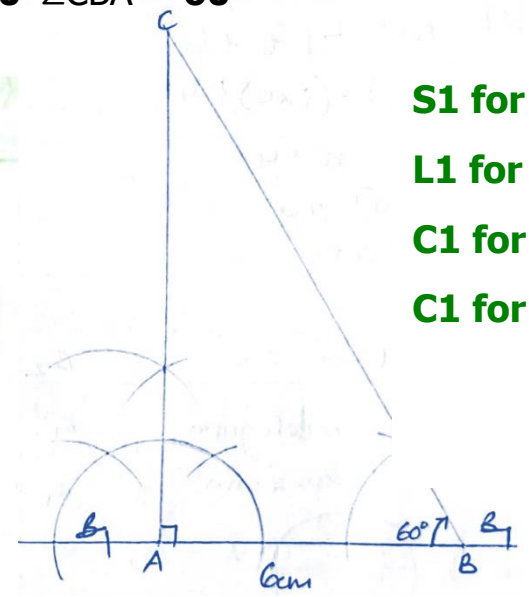
Carl: (14 × 3) + 7
49 pots
Kakembo: (14 × 4)
56 pots
Azawi: (14 × 2)
28 pots
De- shaba: (14 × 3)
42 pots
Ekakwa: (14 × 1) + 7
21 pots
Total = 196 pots

M1 for correct method

A1 for correct answer

23. Using a pencil, ruler, and pair of compasses only, construct triangle ABC where AB = 6 cm, ∠CAB = **90°**∠CBA = **60°** *(04 marks)*





S1 for sketch

L1 for 6cm

C1 for angle 90^0 on sight

C1 for 60^0 on sight

Measure **AC** and calculate the area of the triangle. *(01 mark)*

AC = 10.1 cm

Area = $\frac{1}{2}bh$

3cmx10.1

$30.3cm^2$

B1 for correct area

24. (a) Convert 1.5 into a mixed numeral. *(02 marks)*

$1.5=\frac{15}{10}$ **M1 for correct method** **A1 for correct answer**

$1\frac{5}{10}$ **$1\frac{1}{2}$** **Accept other alternatives**

(b) Primary Seven class has sixteen boys and twenty-four girls. If ¼ of the pupils are day scholars

(i) How many pupils are in the boarding section? *(03 marks)*

Total pupils = 16 + 24

40 pupils

Day scholars=$\frac{1}{4}\times 40$

10pupils

B1 for 40 pupils

M1 for correct method

A1 for 30 pupils

(ii) How many more pupils are in boarding than in day? *(01 mark)*

Difference = 40-10

20 more

B1 for 20 more

25. Given: k = 5, b =t= 4, m = 6

(a) Work out: $\frac{2k+m}{b}$

$\frac{(2x5)+6}{4}$

$\frac{10+6}{4}$

$\frac{16}{4}$

4

B1 for correct method

B1 for 4

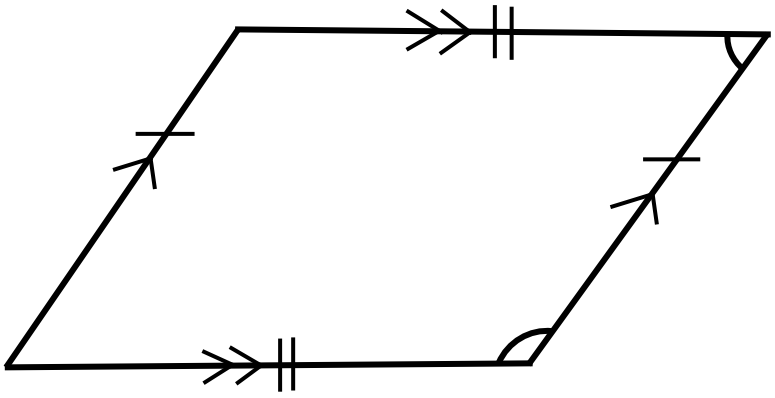
(b) Solve: mb − kt + b *(02 marks)*

mb−kt+b
(6×4) − (5×4) +4
24+4−20
28-20
8

B1 for correct method

B1 for 8

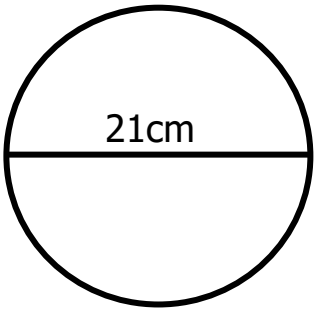
26. (a) Name the following geometrical shape. *(01 mark)*



B1 for correct answer

Parallelogram

(b) Work out the area of the shape below. Take $\pi = \frac{22}{7}$ *(02 marks)*

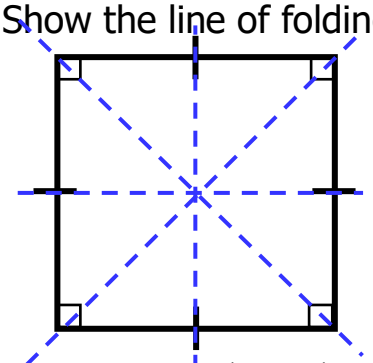


A= π r²
$\frac{22}{7} \times \frac{21cm}{2} \times \frac{21cm}{2}$
3×11×21cm²
$\frac{33\times21}{2}$ cm²
$\frac{693}{2}$ cm2
346.5cm²

M1 for correct method

A1 for 346.5cm²

(c) Show the line of folding symmetry in the figure below. *(01 mark)*



B1 for correct answer

27. (a) Simplify: $2\frac{1}{2}$ of $3\frac{1}{3} \div 1\frac{2}{5} - \frac{5}{6}$ *(02 marks)*

$\frac{5}{2} \times (\frac{10}{3} \div \frac{7}{5}) - \frac{5}{6}$
$(\frac{5}{2} \times \frac{10}{3} \times \frac{5}{7}) - \frac{5}{6}$
$\frac{125}{21} - \frac{5}{6}$
$\frac{250-35}{42}$
$\frac{215}{42}$
$5\frac{5}{42}$

M1 for correct method

A1 for correct answer

(b) $\frac{3}{8}$ of Jumbo's monthly salary is sh. 81,000. Find his full salary. *(02 marks)*

$81000 \div \frac{3}{8}$ shs.27000x8
$81000 \times \frac{8}{3}$ shs. 216,000

M1 for correct method

A1 for correct answer

(c) Primary Two class has boys and girls in a ratio of 5:8.
If a girl is picked at random, find the probability of picking a girl. *(01 mark)*

Probability = $\frac{n\ (pc)}{n\ (t.c)}$

$\frac{girl}{girl+boy}$

$\frac{8}{3+5}$

$\frac{8}{11}$

B1 for correct answer

28. Tibakoberwa went shopping with four notes of twenty thousand shillings and bought the following items:
3 books at sh. 3,500 each
500 grams of turmeric at sh. 2,000 per kg
4 liters of cooking oil at sh. 1,500 per liter
3 loaves of bread at sh. 15,000
(a) Calculate her total expenditure. *(04 marks)*

Books Sh. 3500 × 3
sh. 10,500
Turmeric $\frac{500g}{1000g}$ × Sh. 2000
sh. 1000
Cooking Oil Sh. 1500 × 4
sh. 6,000
Bread Sh. 15000

Total Expenditure Sh. 31,200
sh. 15000
sh. 10500
+sh. 6000
Sh. 1000
Sh. 32,500

B1 each correct answer(in red)

(b) Work out her change if she was given a discount of 10% of her total expenditure. *(02 marks)*

100% - 10% =90%

$\frac{90}{100} \times sh \cdot 32500$

sh. 29250

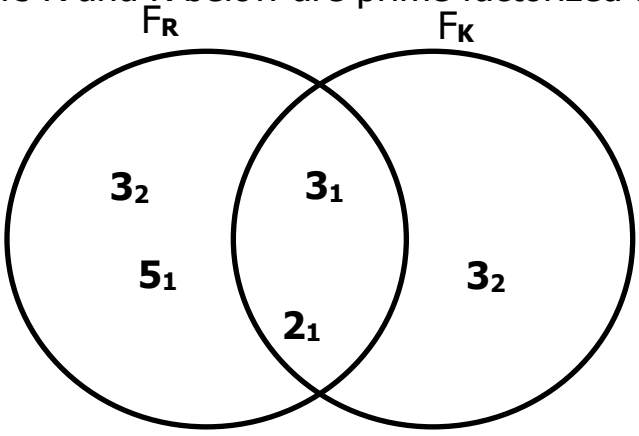
Her change
sh. 20,000 x 4
sh. 80,000

Her change
sh. 80000
-sh. 29250
Sh. 50750

M1 for correct method

A1 for Sh. 50750

29. Numbers R and K below are prime factorized and shown on the Venn diagram.



(a) Work out the G.C.F of R and K *(01 mark)*

G.C.F. $=\{2_1 , 3_1\}$

$n(F_R \cap F_K) = 2 \times 3$

$n(F_R \cap F_K) = 6$

B1 for 6

(b) Which number is represented by: *(04 marks)*

(i) R

$n(F_R) = \{2_1\ 3_1, 3_2, 5_1\}$

$n(F_R) = 2 \times 3 \times 3 \times 5$

$n(F_R) = 6 \times 15$

$n(F_R) = 90$

B1 for correct method

B1 for 90

(ii) K

$n(F_k) = \{2_1, 3_1, 3_3\}$

$n(F_k) = 2x3x3$

$n(F_k) = 6x3$

$n(F_k) = 18$

B1 for correct method

B1 for 18

30. (a) Express 10101_{two} to denary base. *(02 marks)*

2^4	2^3	2^2	2^1	2^0
1	0	1	0	1

M1 for correct method

A1 for 21_{ten}

$(1 \times 2^4) + (0 \times 2^3) + (1 \times 2^2) + (0 \times 2^1) + (1 \times 2^0)$

$(1 \times 16) + (0 \times 8) + (1 \times 4) + (0 \times 2) + (1 \times 1)$

$16 + 0 + 4 + 0 + 1$

21_{ten}

(b) Work out the value of 3 in 2310_{four} *(02 marks)*

4^3	4^2	4^1	4^0
2	3	1	0

$3 \times 4 \times 4$

12×4

48_{ten}

B	N	R
4	48	0
4	12	0
4	3	3
	0	

300_{four}

B2 for 300_{four}

(c) Write the place value of 5 in 256_{seven} *(01 mark)*

Sevens

B1 for sevens

31. The sum of the digits in the figure below vertically, horizontally and diagonally are equal. *(05 marks)*

5	**0**	**A**
C	**4**	**B**
D	**8**	**3**

(a) Find the magic sum

Magic sum = 5 + 4 + 3

12

B1 for correct answer

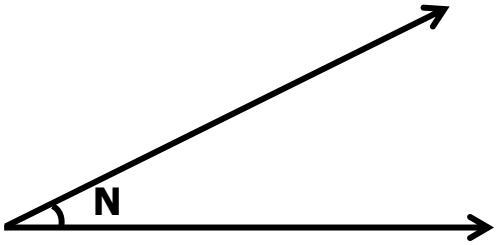
(b) Find the value of

A B C D

A	B	C	D
12-(5+0) 12-5 7	12-(A+3) 12-(7+3) 12 – 10 2	12-(4+B) 12-(4+2) 12-6 6	12-(8+3) 12-11 1

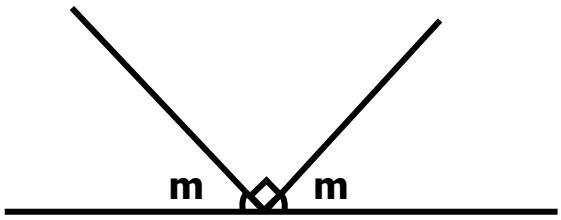
B1 for 7
B1 for 2
B1 for 6
B1 for 1

32. (a) Name the type of angle below. *(01 mark)*



Acute angle

(b) Calculate the unknown angle below: *(02 marks)*

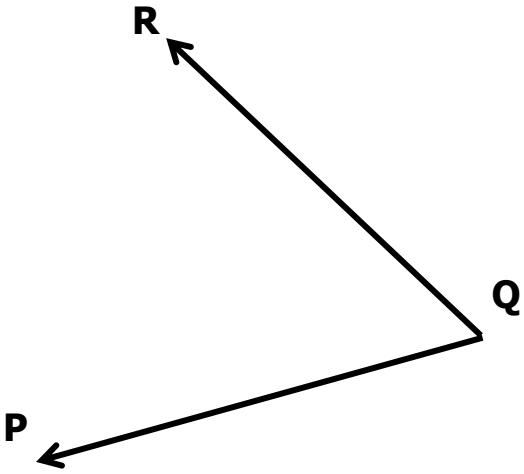


M1 for correct method

A1 for 45°

∠m+m+90° =180
2m + 90 – 90 = 180 – 90
2m + 0 = 90
2m = 90 m
2m = 90
2 2
45°

(c) Bisect angle PQR below using a pair of compasses and a pencil only.
(02 marks)



C1 for correct arcs

A1 for bisecting

END