KAZO P.7 MATH MOCK MARKING GUIDE, TERM 11 2023

Q N	SOLUTIONS	MRK

SECTION A: (40 MARKS)

1.
346
+25
371 — B_2

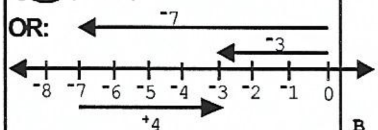
2. 2,042, 107 = (Two million, forty two thousand, one hundred seven) — B_2

3. P = {t, k, r}
proper subsets from set P
{ }, {t}, {k}, {r}, {t,k}, {t,r}, {k,r} — B_2

4. 279.682
+ 1
280.000   279.682 ≃ 280 — B_2

5. 12th triangle number — M_1
$\frac{n(n+1)}{2}$
$\frac{12(12+1)}{2}$
$\frac{\overset{6}{\cancel{12}} \times 13}{\cancel{2}_1}$
6x13 = 78 — A_1

6. Let the whole number be x
x = 0.222................(i)
10x = 2.222............(ii)
10x = 2.222....
- x = 0.222.... — M_1
$\frac{9x}{9} = \frac{2}{9}$ | $x = \frac{2}{9}$ — A_1

7. $^-3 - ^-7$
$^-3 + ^+7 = ^+4$
OR:


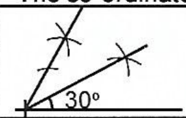
$^-3 - ^-7 = ^+4$ — B_2

8.
   505
3)1515
 -15
   15
  -15
 --   1515 ÷ 3 = 505 — B_2

9. Area $= \frac{1}{2} \times b \times h$
$= \frac{1}{2}$ x6cm+4cm — M_1
$= \frac{1}{2}$ x6cmx4cm
$= \frac{1}{2}$ x6cmx4cm
= 12cm² — A_1

10. $(4\times10^3)+(8\times10^1)+(3\times10^0)+(6\times10^{-2})$
$4\times10^3 = 4\times10\times10\times10 = 4000$
$8\times10^1 = 8\times10 = 80$
$3\times10^0 = 3\times1 = 3$ — M_1
$6\times10^{-2} = 6\times\frac{1}{10\times10} = \frac{6}{100} = 0.06$
4000
80
3
+ 0.06
4083.06 — A_1

11. The co-ordinate is (0, $^-3$) — B_2

12.


13. 6-3x ≥ 3
6-6-3x ≥ 3-6
$\frac{^-3x}{^-3} \geq \frac{^-3}{^-3}$
x ≤ 1 — M_1
x={1,0,1, 2....} — A_1

14. n+120°+130° = 360°
n+250° = 360°
n+250°-250° = 360°-250° — M_1
n = 110° — A_1

15. Speed = $\frac{\text{Distance}}{\text{Time}}$
= $\frac{180km}{2hours}$ = 90km/hr — M_1
Speed = $\frac{90x1000}{1x3600sec}$ = 25m/sec — A_1

16. 5 mangoes costs sh.500
1 mango costs $\frac{sh.500}{5}$
1 mango costs sh.100 — M_1
20 mangoes costs sh.100x20
= sh.2000 — A_1
OR: $\frac{20}{5}$ = 4 groups — M_1
4 x 500 = sh.2000 — A_1

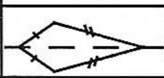
17. $32_{five} = (3\times5^1) + (2\times5^0)$
= (3x5) + (2x1)
= 8 + 2
= 10_{ten} — M_1

	No	Rem
2	10	0
2	5	1
2	2	6
	1	1

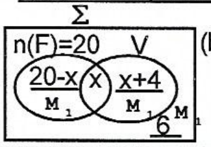
= 1010_{two} — A_1

18. 3 0 7 9
3 0 7 9 — A_1
3 0 7 9 x 10^{-3} — M_1

19. New : Old
4 : 3
? sh.1200
3 parts = sh.1200
1 part = $\frac{sh.1200}{3}$
1 part = sh.400 — M_1
4 parts = sh,400x4 = sh.1600 — A_1
New
New Amount = $\frac{4}{3}$ x sh.1200
$\frac{4}{\cancel{3}_1}$ x sh.$\overset{4}{\cancel{1200}}$
= sh.1600

20.

It has 1 line of folding symetry.

SECTION B: (60 MARKS)

21. (a)


M_1 M_1 M_1

(b) x+4=14
x+4-4=14-4 — M_1
x=10 pupils. — A_1

22. (a) Fraction for food and rent
$\frac{1}{3} + \frac{1}{4} = \frac{3+4}{12} = \frac{7}{12}$ — M_1
Remaining fraction
$\frac{12}{12} - \frac{7}{12} = \frac{5}{12}$ — A_1
Fraction for transport
$\frac{1}{5} \times \frac{5}{12}$
$\frac{1}{5} \times \frac{5}{12} = \frac{1}{12}$
Fraction for food, rent and transport
$\frac{7}{12} + \frac{7}{12} = \frac{8}{12} = \frac{4}{6} = \frac{2}{3}$ — M_1
Fraction saved:
$\frac{3}{3} - \frac{2}{3} = \frac{1}{3}$ — A_1

(b) Let his salary be x
$\frac{1}{3} \times x$ = sh.240,000 — M_1
$\cancel{3} \times \frac{x}{\cancel{3}}$ = sh.240,000 x 3
x = sh.720,000 — A_1

23. (a) $\frac{0.12 \times 0.4}{0.72}$
$\frac{12}{100} \times \frac{4}{10} \div \frac{72}{100}$
$\frac{12}{100} \times \frac{4}{10} \times \frac{100}{72}$ — M_1
$\frac{\cancel{12}}{\cancel{100}} \times \frac{\cancel{4}}{\cancel{10}} \times \frac{\cancel{100}}{\cancel{72}}$
$= \frac{2}{30} = \frac{1}{15}$ — A_1

(b) $3^4 \times 3^2 \div 3^6$
$3^{4+2} \div 3^6$ — M_1
$3^6 \div 3^6$
3^{6-6}
3^0
= 1 — A_1

24. (a) 90° + 60° + 80° + y = 360° — M_1
230° + y = 360°
230° - 230° + y = 360° - 230°
y = 130° — A_1

(b) Difference in degrees = difference in books.
130° - 80° = 50°
50° = 500 books
1° = $\frac{50\cancel{0}}{5\cancel{0}}$ books
1° = 10 books
No.of books in the school Library
1° = 10 books — M_1
360°=360x10 bks = 3600 bks. — A_1

25. (a) 1US Dollars = 3750/=
260 US Dollars = 200xsh.3750 — M_1
200 US Dollars = 750,000 — A_1

(b) 1 Irish = Ugsh.25
800ksh = 800xUgsh.25
= Ugsh.20,000
1US Dollar = Ugsh.4000
? = Ugsh.20,000 — M_1
= $\frac{20,\cancel{000}}{4,\cancel{000}}$ = US Dollars = 5. — A_1

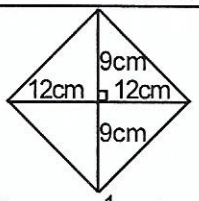
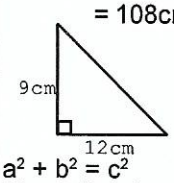
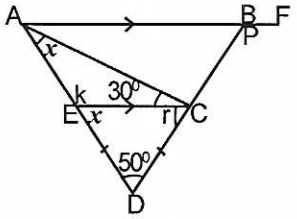
26. (a) 2+8+y+3+1+3+1= 20
2+8+3+1+3+1+y= 20 — M_1
18+y= 20
18-18+y =10-8
y = 2 — A_1

(b) Mean = $\frac{\text{Sum of all items}}{\text{No.of items}}$
= $\frac{(95x2)+(93x1)+(97x1)}{2+1+1}$
= $\frac{190+93+97}{4}$ — M_1
= $\frac{380}{4}$ = 95% — A_1

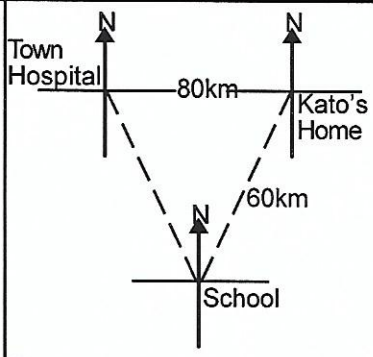
27. Let the age of the son be x.

	father	son	ratio
Now	(x+20)yrs	$x$yrs	
After 8yrs	(x+28)yrs	(x+8)yrs	2:1

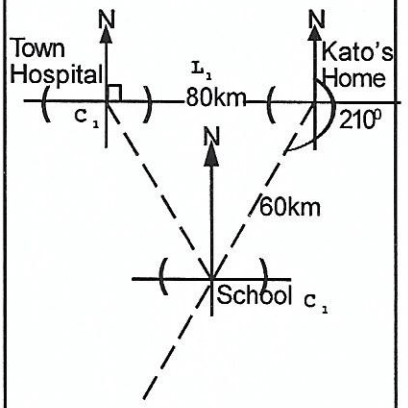
x+28:x+8=2:1
$\frac{x+28}{x+8} = \frac{2}{1}$ — M_1
2(x+8)=x+28
2x+16= x+28
2x-x+16=x-x+28
x+16=28
x+16-16 =28-16
x=12years — M_1
The son is 12yrs old now.
The father is x+20yrs
= (12+20)yrs
= 32 years — A_1

Q N	SOLUTIONS	MRK
28. (a)		
	Area $= \frac{1}{2} \times d_1 \times d_2$	
	$= \frac{1}{2} \times 18cm \times 24cm$	M_1
	$= \frac{1}{2} \times 18cm \times 24cm$	
	$= 108cm^2$	A_1
(b)		
	$a^2 + b^2 = c^2$	
	$9^2 + 12^2 = c^2$	
	$81 + 144 = c^2$	
	$225 = x^2$	M_1
	$x^2 = 225$	
	$\sqrt{x^2} = \sqrt{225}$ | $\sqrt{225} = \sqrt{15 \times 15}$	
	$x = \sqrt{225}$ | $\sqrt{225} = 15$	
	Perimeter = s+s+s+s	
	= 15cm+15cm+15cm+15cm	
	Perimeter = 60cm	A_1
29.		
	$r+r+50^0 = 180^0$	
	$2r+50^0 = 180^0$	
	$2r + 50^0 - 50^0 = 180^0 - 50^0$	
	$\frac{2r}{2} = \frac{130^0}{2}$	
	$r = 65^0$	M_1
	$k+65^0=180^0$	
	$k+65^0-65^0=180^0-65^0$	
	$k=115^0$	M_1
	$x+115^0+30^0=180^0$	
	$x+145^0=180^0$	
	$x+145^0-145^0=180^0-145^0$	
	$x = 35^0$	A_1

Q N	SOLUTIONS	MRK
29...	$35^0+30^0+50^0 = \angle P$	B_1
	$115^0 = \angle P$	
	$\angle P = 115^0$	M_1
30. (a)	2 | 6 | 8 | 9 2 | 3 | 4 | 9 2 | 3 | 2 | 7 3 | 3 | 1 | 9 3 | 1 | | 3 1	A_1
	L.C.M = 2 x 2 x 2 x 3 x 3	
	L.C.M = 72	M_1
	The no. is 72+3 = 75	A_1
(b)	02:45 hours	
	12:00 hours	
	14:45 hours	B_2
31. (a)	4+6 = (mode 7)	
	4+6 = 10 ÷ 7 = 1rem3	M_1
	4+6 = 3 (mode 7)	
	Let principal be y.	A_1
(b)	P x T x R = SI	
	$y \times 2 \times \frac{10}{100} = sh.400$	M_1
	$\frac{20y}{100} = sh.400$	
	$\frac{20y}{100} = sh.400$	
	$10 \times \frac{2y}{10} = sh.400 \times 10$	M_1
	$\frac{2}{2}y = sh.\frac{400 \times 10}{2}$	
	$y = sh.2000$	A_1

Q N	SOLUTIONS	MRK
32. (a)		S_1

Stations	Distance	Bearing	Drawing length
From town hospital to Kato's home.	80km	90^0	80km÷10 = 8cm
From Kato's home to school.	60km	210^0	60km÷10 = 6cm



(b) The bearing of Town Hospital from Kato's home is 270^0.

****END****