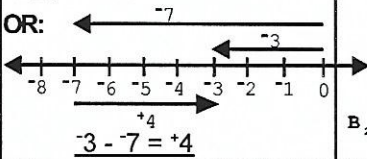
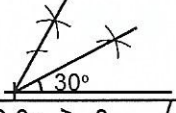


KAZO P.7 MATH MOCK MARKING GUIDE, TERM 11 2023

Q N	SOLUTIONS	MRK	Q N	SOLUTIONS	MRK	Q N	SOLUTIONS	MRK												
1.	SECTION A:(40 MARKS) 346 +25 371	B ₂	14.	$n+120^0+130^0 = 360^0$ $n+250^0 = 360^0$ $n+250^0-250^0 = 360^0-250^0$ $n = 110^0$	M ₁ A ₁	(b)	Let his salary be x $\frac{1}{3} \times x = \text{sh.}240,000$ $3 \times \frac{x}{3} = \text{sh.}240,000 \times 3$ $x = \text{sh.}720,000$	M ₁ A ₁												
2.	2,042, 107 = (Two million, forty two thousand, one hundred seven)	B ₂	15.	Speed = $\frac{\text{Distance}}{\text{Time}}$ $= \frac{180\text{km}}{2\text{hours}} = 90\text{km/hr}$ Speed = $\frac{90 \times 1000}{1 \times 3600\text{sec}} = 25\text{m/sec}$	M ₁ A ₁	23.	$\frac{0.12 \times 0.4}{0.72}$ $\frac{12 \times 4 \div 72}{100 \times 10 \times 100}$ $\frac{12 \times 4 \times 100}{100 \times 10 \times 72}$ $\frac{12}{100} \times \frac{4}{10} \times \frac{100}{72}$ $= \frac{2}{30} = \frac{1}{15}$	M ₁ A ₁												
3.	P = {t, k, r} proper subsets from set P { }, {t}, {k}, {r}, {t,k}, {t,r}, {k,r}	B ₂	16.	5 mangoes costs sh.500 1 mango costs $\frac{\text{sh.}500}{5}$ 1 mango costs sh.100 20 mangoes costs sh.100x20 $= \text{sh.}2000$ OR: $\frac{20}{5} = 4$ groups 4 x 500 = sh.2000	M ₁ A ₁ M ₁ A ₁	(a)	$\frac{3^4 \times 3^2 \div 3^6}{3^{4+2} \div 3^6}$ $\frac{3^6 \div 3^6}{3^0}$ $= 1$	M ₁ A ₁												
4.	279.682 + 1 280.000 279.682 $\approx$ 280	B ₂	17.	$32_{\text{five}} = (3 \times 5^1) + (2 \times 5^0)$ $= (3 \times 5) + (2 \times 1)$ $= 8 + 2$ $= 10_{\text{ten}}$ <table><tr><th>No</th><th>Rem</th></tr><tr><td>2</td><td>10</td></tr><tr><td>2</td><td>5</td></tr><tr><td>2</td><td>2</td></tr><tr><td>1</td><td>1</td></tr></table> $= 1010_{\text{two}}$	No	Rem	2	10	2	5	2	2	1	1	M ₁ A ₁ A ₁	(b)	90° + 60° + 80° + y = 360° 230° + y = 360° 230° - 230° + y = 360° - 230° y = 130°	M ₁ A ₁		
No	Rem																			
2	10																			
2	5																			
2	2																			
1	1																			
5.	12 th triangle number $\frac{n(n+1)}{2}$ $\frac{12(12+1)}{2}$ $\frac{12 \times 13}{2}$ 6x13 = 78	M ₁ A ₁	18.	3 0 7 9 $3 \overline{) 3079}$ 3079×10^{-3}	M ₁ A ₁ M ₁	24.	Difference in degrees = difference in books. 130° - 80° = 50° 50° = 500 books 1° = 500 books 1° = 10 books No. of books in the school Library 1° = 10 books 360° = 360x10 bks = 3600 bks.	M ₁ A ₁ M ₁ A ₁												
6.	Let the whole number be x x = 0.222.....(i) 10x = 2.222.....(ii) 10x = 2.222.... - x = 0.222.... $\frac{9x}{9} = \frac{2}{9}$ x = $\frac{2}{9}$	M ₁ A ₁	19.	New Old 4 : 3 ? sh.1200 3 parts = sh.1200 1 part = $\frac{\text{sh.}1200}{3}$ 1 part = sh.400 4 parts = sh.400x4 = sh.1600 New Amount = $\frac{4}{3} \times \text{sh.}1200$ $\frac{4}{3} \times \text{sh.}1200$ $= \text{sh.}1600$	M ₁ A ₁ M ₁ A ₁	25.	1US Dollars = 3750/= (a) 260 US Dollars = 200xsh.3750 200 US Dollars = 750,000 (b) 1 Irish = Ugsh.25 800ksh = 800xUgsh.25 = Ugsh.20,000 1US Dollar = Ugsh.4000 ? = Ugsh.20,000 $= \frac{20,000}{4,000} = \text{US Dollars} = 5.$	M ₁ A ₁ M ₁ A ₁												
7.	-3 - 7 -3 + 7 = +4 OR: 	B ₂	20.	 It has 1 line of folding symmetry.	A ₁ M ₁	26.	2+8+y+3+1+3+1=20 2+8+3+1+3+1+y=20 18+y=20 18-18+y=20-18 y=2	M ₁ A ₁												
8.	$\frac{505}{3}$ $\frac{1515}{-15}$ $\frac{15}{-15}$ 1515 ÷ 3 = 505	B ₂	21.	SECTION B:(60 MARKS) Σ <table><tr><td>n(F)=20</td><td>V</td></tr><tr><td>$\frac{20-x}{M_1}$</td><td>$\frac{x+4}{M_1}$</td></tr></table> (b) x+4=14 x+4-4=14-4 x=10 pupils.	n(F)=20	V	$\frac{20-x}{M_1}$	$\frac{x+4}{M_1}$	M ₁ A ₁ M ₁ A ₁	(b)	Mean = $\frac{\text{Sum of all items}}{\text{No. of items}}$ $= \frac{(95 \times 2) + (93 \times 1) + (97 \times 1)}{2+1+1}$ $= \frac{190+93+97}{4}$ $= \frac{380}{4} = 95\%$	M ₁ A ₁								
n(F)=20	V																			
$\frac{20-x}{M_1}$	$\frac{x+4}{M_1}$																			
9.	Area = $\frac{1}{2} \times b \times h$ $= \frac{1}{2} \times 6\text{cm} \times 4\text{cm}$ $= \frac{1}{2} \times 6\text{cm} \times 4\text{cm}$ $= \frac{1}{2} \times 6\text{cm} \times 4\text{cm}$ $= 12\text{cm}^2$	M ₁ A ₁	22.	Fraction for food and rent $\frac{1}{3} + \frac{1}{4} = \frac{3+4}{12} = \frac{7}{12}$ Remaining fraction $\frac{12}{12} - \frac{7}{12} = \frac{5}{12}$ Fraction for transport $\frac{1}{5} \times \frac{5}{12} = \frac{1}{12}$ Fraction for food, rent and transport $\frac{7}{12} + \frac{1}{12} = \frac{8}{12} = \frac{2}{3}$ Fraction saved: $\frac{3}{3} - \frac{2}{3} = \frac{1}{3}$	M ₁ A ₁ M ₁ A ₁	27.	Let the age of the son be x. <table><tr><th></th><th>father</th><th>son</th><th>ratio</th></tr><tr><td>Now</td><td>(x+20)yrs</td><td>xyrs</td><td></td></tr><tr><td>After 8yrs</td><td>(x+28)yrs</td><td>(x+8)yrs</td><td>2:1</td></tr></table> $x+28 : x+8 = 2:1$ $\frac{x+28}{x+8} = \frac{2}{1}$ 2(x+8)=x+28 2x+16=x+28 2x-x+16=x-x+28 x+16=28 x=12 years The son is 12yrs old now. The father is x+20yrs =(12+20)yrs = 32 years		father	son	ratio	Now	(x+20)yrs	xyrs		After 8yrs	(x+28)yrs	(x+8)yrs	2:1	M ₁ A ₁ M ₁ A ₁
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After 8yrs	(x+28)yrs	(x+8)yrs	2:1																	
10.	$(4 \times 10^3) + (8 \times 10^1) + (3 \times 10^0) + (6 \times 10^{-2})$ $4 \times 10^3 = 4 \times 10 \times 10 \times 10 = 4000$ $8 \times 10^1 = 8 \times 10 = 80$ $3 \times 10^0 = 3 \times 1 = 3$ $6 \times 10^{-2} = 6 \times \frac{1}{100} = \frac{6}{100} = 0.06$ 4000 80 3 + 0.06 4083.06	M ₁ A ₁	23.	Fraction for food and rent $\frac{1}{3} + \frac{1}{4} = \frac{3+4}{12} = \frac{7}{12}$ Remaining fraction $\frac{12}{12} - \frac{7}{12} = \frac{5}{12}$ Fraction for transport $\frac{1}{5} \times \frac{5}{12} = \frac{1}{12}$ Fraction for food, rent and transport $\frac{7}{12} + \frac{1}{12} = \frac{8}{12} = \frac{2}{3}$ Fraction saved: $\frac{3}{3} - \frac{2}{3} = \frac{1}{3}$	M ₁ A ₁ M ₁ A ₁	28.	Let the age of the son be x. <table><tr><th></th><th>father</th><th>son</th><th>ratio</th></tr><tr><td>Now</td><td>(x+20)yrs</td><td>xyrs</td><td></td></tr><tr><td>After 8yrs</td><td>(x+28)yrs</td><td>(x+8)yrs</td><td>2:1</td></tr></table> $x+28 : x+8 = 2:1$ $\frac{x+28}{x+8} = \frac{2}{1}$ 2(x+8)=x+28 2x+16=x+28 2x-x+16=x-x+28 x+16=28 x=12 years The son is 12yrs old now. The father is x+20yrs =(12+20)yrs = 32 years		father	son	ratio	Now	(x+20)yrs	xyrs		After 8yrs	(x+28)yrs	(x+8)yrs	2:1	M ₁ A ₁ M ₁ A ₁
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After 8yrs	(x+28)yrs	(x+8)yrs	2:1																	
11.	The co-ordinate is (0, 3)	B ₂	24.	Fraction for food and rent $\frac{1}{3} + \frac{1}{4} = \frac{3+4}{12} = \frac{7}{12}$ Remaining fraction $\frac{12}{12} - \frac{7}{12} = \frac{5}{12}$ Fraction for transport $\frac{1}{5} \times \frac{5}{12} = \frac{1}{12}$ Fraction for food, rent and transport $\frac{7}{12} + \frac{1}{12} = \frac{8}{12} = \frac{2}{3}$ Fraction saved: $\frac{3}{3} - \frac{2}{3} = \frac{1}{3}$	M ₁ A ₁ M ₁ A ₁	29.	Let the age of the son be x. <table><tr><th></th><th>father</th><th>son</th><th>ratio</th></tr><tr><td>Now</td><td>(x+20)yrs</td><td>xyrs</td><td></td></tr><tr><td>After 8yrs</td><td>(x+28)yrs</td><td>(x+8)yrs</td><td>2:1</td></tr></table> $x+28 : x+8 = 2:1$ $\frac{x+28}{x+8} = \frac{2}{1}$ 2(x+8)=x+28 2x+16=x+28 2x-x+16=x-x+28 x+16=28 x=12 years The son is 12yrs old now. The father is x+20yrs =(12+20)yrs = 32 years		father	son	ratio	Now	(x+20)yrs	xyrs		After 8yrs	(x+28)yrs	(x+8)yrs	2:1	M ₁ A ₁ M ₁ A ₁
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After 8yrs	(x+28)yrs	(x+8)yrs	2:1																	
13.	$6-3x \geq 3$ $6-6-3x \geq 3-6$ $-3x \geq -3$ $x \leq 1$ $x = \{1, 0, 1, 2, \dots\}$	M ₁ A ₁	26.	Fraction for food and rent $\frac{1}{3} + \frac{1}{4} = \frac{3+4}{12} = \frac{7}{12}$ Remaining fraction $\frac{12}{12} - \frac{7}{12} = \frac{5}{12}$ Fraction for transport $\frac{1}{5} \times \frac{5}{12} = \frac{1}{12}$ Fraction for food, rent and transport $\frac{7}{12} + \frac{1}{12} = \frac{8}{12} = \frac{2}{3}$ Fraction saved: $\frac{3}{3} - \frac{2}{3} = \frac{1}{3}$	M ₁ A ₁ M ₁ A ₁	31.	Let the age of the son be x. <table><tr><th></th><th>father</th><th>son</th><th>ratio</th></tr><tr><td>Now</td><td>(x+20)yrs</td><td>xyrs</td><td></td></tr><tr><td>After 8yrs</td><td>(x+28)yrs</td><td>(x+8)yrs</td><td>2:1</td></tr></table> $x+28 : x+8 = 2:1$ $\frac{x+28}{x+8} = \frac{2}{1}$ 2(x+8)=x+28 2x+16=x+28 2x-x+16=x-x+28 x+16=28 x=12 years The son is 12yrs old now. The father is x+20yrs =(12+20)yrs = 32 years		father	son	ratio	Now	(x+20)yrs	xyrs		After 8yrs	(x+28)yrs	(x+8)yrs	2:1	M ₁ A ₁ M ₁ A ₁
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[illegible]