MOCK EXAMINATION MARCH/APRIL 2019

MATHEMATICS PAPER 1 MARKING SCHEME

	SOLUTION(SECTION A)	**MARKS**	**COMMENTS**
1.	$\frac{0.64 \times 35 \times 10,000}{0.009 \times 0.8 \times 10,000}$ $= \frac{64 \times 3500}{72}$ or $\frac{800 \times 35}{9}$ $= 3111.1111$ ~ 3111.11	M1 M1 B1	x by 10,000
2	Area of plot $10m \times 55m = 550m^2$ New length $\frac{95}{100} \times 55 = 52.25m$ New area $10m \times 52.25m = 522.5m^2$ % decrease $\frac{550 - 522.5}{550} \times 100\%$ $= \frac{27.5}{550} \times 100\%$ $=5\%$	 M1 M1 A1	
3	$0.35m - 0.27m = 0.08m$ $0.08m \Rightarrow 28.4$ litres $0.75m \Rightarrow \frac{28.4}{0.08} \times 0.75$ $= 28.4 \times \frac{75}{8}$ $=266.25$ litres	 M1 A1	For 0.08m
4	Men – ¾ x 252 =54, women - $\frac{4}{14} \times 252 = 72$ Children $\frac{7}{14} \times 252 = 126$ New ratio men – 54 +10; women 72=8: children 126+2 Men : Women: Children 64 80 128 4:5:8	 M1 M1 A1	
5	$\frac{1 \times 3}{2 \quad 8} + \frac{9}{4} = \frac{3}{13 \times 100} + \frac{9}{16 \quad 4}$ $15 \quad 3 \qquad 260/9$ $= \frac{39}{16}$ $260/9$ $= \frac{39}{16} \times \frac{9}{260}$ $= \frac{27}{}$	 M1 M1	

	320	A1	
6	1000r = 348.348348-------- r = 0.348348---- 999r = 348 r = 348 999 =116 333	 M1 M1 A1	 For equation
7	6y – 12 – 5 > 4y -12 +3y 6y – 17 > 7y – 12 -y >5 y < -5	M1 M1 A1	For removing brackets for –y >5
8	$2x^2 – 8x – 3x + 12 = 0$ 2x (x-4) -3(x-4) =0 (x-4) (2x -3) =0 x -4 = 0 or 2x -3 =0 x = 4 or x = 1 ½	 M1 M1 A1	Factorizing Both Do not accept any other method
9	L.C.M $=2^3 \times 3^3 \times 5 = 1080$ G.C.D = 2 x 3 = 6 L.C.M = 1080 G.C.D 6 =180	 B1 A1	 For LC and GCD
10	Let the number of men be m. Women: (m+7824) Children:1/3 (2m +7824) M +(m+7824) + 1/3(2m + 7824) =694560 M = 256,548 Women = 256,548 +7824 = 264,372	 B1 M1 A1 B1	 Correct expression
11	Mwangi's share = ½ x 1/3 = 1/6 Remaining 1/3 – 1/6 =1/6 Swale share is ¼ x 1/6 = 1/24 Nyangweso share is 1 – 1 = 4-1 = 3 = 1 6 24 24 24 8	B1 B1 B1	For 1/6 For 1/24
12	Width = (x-2)m (x+3)(x-2) = 84 $x^2 + x – 6 =84$ $x^2 + x – 90 =0$ (x + 10)(x – 9) =0 x = -10 or x =9 Width = 9-2 =7m	 M1 M1 A1 B1	 For quadratic equation For factorizing both -10&9
13	$(2.4 + 5 \times 10^{-2}) \times 10^{-3}$ $(2.4 + 0.05) \times 10^{-3}$	 B1	 For 2.45

	2.45×10^{-3}	B1	
14	$32x15xh = \frac{22}{7} \times 14 \times 14 \times 12$ $h = \frac{22 \times 14 \times 14 \times 12}{7 \times 32 \times 15}$ $= 15.4cm$ or $15\ 2/5cm$ or $h = 7392$ $\frac{480}{}$ $= 15\ 2/3$	M1 M1 A1	Equating the two & volumes making h the subject
15	Marked price $\frac{100}{110} \times 220$ $= sh.200$ % loss $= \frac{200 - 170}{200} \times 100\%$ $= \frac{30}{200} \times 100\%$ $= 15\%$	B1 M1 A1	
16	L.S.F 100,000 : 50,000 2:1 1:2 A.S.F 4:1 1:4 Area on new map $= 3.7 \times \frac{4}{1}$ $= 14.8cm^2$	B1 B1 B1	
17	Number of girls $= 750 \times \frac{7}{15} \times \frac{11}{10} = 385$ Number of boys $= 750 \times \frac{8}{15} \times \frac{19}{20} = 380$ Total number of pupils $= 385 + 380$ $= 765$	M1 M1 A1	
18	$BOC = 2 \times 64^0 = 128^0$ $OCB = \frac{180^0 - 128^0}{2}$ $= 26^0$ $ABC = 180 - (64^0 + 26^0 + 22^0)$ $= 68^0$	B1 B1 B1	Accept any other method
19	$t(x + 3v) = 2x - v$ $tx + 3tv = 2x - v$ $3tv + v = 2x - tx$ $V(3t + 1) = 2x - tx$ $V = \frac{2x - tx}{3t + 1}$ or $\frac{x(2 - t)}{3t + 1}$	M1 M1 A1	
20	Total $57 \times 6 = 342$ Marks for five subjects $50+61+ 45+81+70$ $=307$ Sixth subject $= 342 - 307$ $=35$ Median mark, 35, 45, 50, 61, 70, 81 $\frac{50+61}{2}$	M1 M1	

	= 55.5	A1	
21	**SECTION B** a) Total amount $\frac{125}{100}$ x 30,000 = sh.37,500 Total installment sh.2,500 x 10=sh.25,000 Deposit sh.(37,500 – 25,000) Sh.12,500 b) 1st year C.I $\frac{20}{100}$ x 30,000 = sh.6,000 2nd year C.I $\frac{20}{100}$ x 36,000 = sh.7,200 Total amount paid 36,000 + 7,200 =sh.43,200 c) Atieno paid sh. 37,500 Masai paid sh. 43,200 43,200 – 37,000 =sh. 5,700 Masai paid more by sh.5,700	M1 A1 M1 A1 B1 B1 8mks	C.A.O
22	41, 42, 43, 44, 44, 45, 46.5, 47, 48, 49, 50, 53, 55, 55, 56, 59, 59.5, 60, 61, 62. a) Mean = $\frac{964}{19}$ =50.7368 50.74(2dp) b) Total mass = 20 x 51 =1020kg Mass of twentieth = 1020 – 94 = 56kg c) Modal mass is 44kg and 55kg d) 10th mass = 49kg 11th mass = 50kg Median = $\frac{49+50}{2}$ =49.5kg	M1 A1 M1 A1 B1B1 M1 A1	

23	a) $\angle$ PRS $\angle$ POQ = 140^0 – Angle at centre is twice the angle at circumference $\angle$ POS =40^0 $\angle$ PRS = 20^0 – Angle subtended by the same chord SP are equal ($\angle$ PQS = $\angle$ PRS) b) $\angle$ POQ =140^0 – Angle at the centre is twice the angle at the circumference c) $\angle$ RPS $\angle$ RPQ =55^0 – base angles of isosceles triangle are equal $\angle$ RPS = 90^0 -35^0 = 35^0 angle subtended by same chord RS d) $\angle$ PSR = 180^0 – (35^0 = 20^0) =125^0 – Angle of a triangle add up to 180^0 (opposite angles of cyclicqudrilateral add up to 180^0	B1B1 B1B1 B1B1 B1B1 8mks	
24	a) Total amount: 85 x 150,000 =sh.12,750,000 b) Expected amount Men: 17,500 x 100 =sh. 1,750,000 Women: 18,200 x 50 =sh.910,000 Pupils: 100 x 85 x 5 = sh. 425,000 Total sh. (1,750,00 + 910,00 + 425,00) = sh.3,085,000 c) Extra money needed Sh.(12,750,000 – 3,085,000) =Sh.9,665,000	M1 A1 M1 M1 M1 A1 M1 A1 8 mks	
25	A 12 months → 50,000 1 month → $\frac{50,000}{12}$ B Per month is $\frac{60,000}{9}$ C Per month is $\frac{30,000}{7}$	M1 M1 M1	

	Ratio A : B : C $\frac{50,000}{12} : \frac{60,000}{9} : \frac{30,000}{7}$ 35 : 56 : 36 ¾ x 35 x 60,000 = Sh. 45,000 A ⇨ $\frac{35}{127}$ x 45,000 = Sh. 12,402 B ⇨ $\frac{56}{127}$ x 45,00 = Sh.19,843 C ⇨ $\frac{36}{127}$ x 45,000 = Sh. 12,756	M1 M1 A1 A1 A1 8mks	For ratio
26	• Line Ab =5cm • Angle BAC = 37 $\frac{1}{2}$ construction • Line AC = 10cm • Line BC constructed • Construction of perpendicular AP • Measure CP = __ cm +0.2 • Area of triangle ½ x 5cm x CP • Area of triangle = _____cm^2	B1 B1 B1 B1 B1 B1 B1 B1 8 mks	