



NAMIBIAN COLLEGE OF OPEN LEARNING

Private Bag 15008, Katutura, Republic of Namibia

Telephone: + (061) 3205111 Fax: + (061) 216987

NSSCO - GRADE 11

Mathematics

PAPER 1 MARKING GUIDE

MOCK EXAMINATION 2022

DATE : AUGUST 2022

MARKS : 80

DURATION : 2 HOURS

Abbreviations

cao	correct answer only
dep	dependent
FT	follow through after error
isw	ignore subsequent working
oe	or equivalent
SC	Special Case
nfww	not from wrong working
soi	seen or implied

Question	Answer	Marks	Partial Marks
1	23 or 29	1	
2	3.87×10^{-5}	1	
3	63/100	1	
4	66	2	B1 for 84 or – 18 seen
5	4600	1	
6	94	2	B1 for ACD or PAB or $ABC = 43$ or M1 for $180 - 2 \times 43$ or $\frac{1}{2}x = 90 - 43$
7	81.7 or 81.71 to 81.72	2	M1 for $\pi \times 5.1^2$
8	4.8[0] or 4.802	2	M1 for $[AC^2 =] 2.5^2 + 4.1^2$
9	2 7 12 cao	1	
Question	Answer	Marks	Partial Marks
10	$7y - 23$ final answer	2	M1 for $12y - 18$ or $-5y - 5$ or B1 for answer $7y - k$ or $cy - 23$ $c \neq 0$
11	– 7	2	B1 for 3^{-3} or 3^4 or 3^7 or 3^{-7} seen or SC1 for final answer 7
12(a)	6.583312236	1	
12(b)	6.5833	1	FT <i>their</i> (a) correctly rounded to 4 dp
13	126	2	M1 for at least 3 multiples of 18 and 21 or $3 \times 6 \times 7$ as final answer or $3 [\times] 6$ and $3 [\times] 7$ in working
14	$\frac{4}{7}$ oe exact answer	2	B1 for 4 or $\frac{1}{7}$
15	$n < -4.4$ or $n < -4\frac{2}{5}$ final answer	2	M1 for $8n - 3n < -5 - 17$ or better or $3n - 8n > 17 + 5$ or better

16	$\frac{7}{4}$	M1	or $\frac{k}{4} \times \frac{6}{35}$ where $k > 4$
	$\frac{3}{10}$ cao	A2	A1 for $\frac{42}{140}$ or $\frac{21}{70}$ or $\frac{6}{20}$
17	19.3 or 19.26 to 19.27 nfww	3	M2 for $[\sin =] 5.9 \times \frac{\sin 84.6}{17.8}$ or M1 for $\frac{5.9}{\sin B} = \frac{17.8}{\sin 84.6}$ oe
Question	Answer	Marks	Partial Marks
18	9	3	M1 for $y = k(x-1)^2$ M1 for $[y =] \text{their } k(7-1)^2$ OR M2 for $\frac{4}{(5-1)^2} = \frac{y}{(7-1)^2}$ oe
19	shape with vertices at (1,7), (2,5), (4,5), (4,7)	3	
20(a)	2200	3	M2 for $\frac{1}{2}(90 + 130) \times 20$ or $\frac{1}{2}(10 \times 20) + (90 \times 20) + \frac{1}{2}(30 \times 20)$ or M1 for one area
20(b)	16.9 or 16.92	1	FT <i>their</i> (a) $\div 130$
21(a)	$2(5 + 8w)$	1	
21(b)	$4t(3x - 2t)$	2	B1 for answer $4(3tx - 2t^2)$ or $t(12x - 8t)$ $2(6tx - 4t^2)$ or $2t(6x - 4t)$
22(a)	10 nfww	2	B1 for UQ = 30 or LQ = 20 clearly identified
22(b)	4	2	B1 for 116 indicated
23	46.2 or 46.17 to 46.18	4	M2 for $[\cos =] \frac{16^2 + 19^2 - 14^2}{2 \times 16 \times 19}$ or M1 for $14^2 = 19^2 + 16^2 - 2 \times 19 \times 16 \cos M$ A1 for 0.692... or $\frac{421}{608}$

Question	Answer	Marks	Partial Marks
24(a)	$\frac{8}{15}$ oe	1	
24(b)	$\frac{168}{210}$ oe	3	M2 for $1 - \frac{7}{15} \times \frac{6}{14}$ oe or $3(\frac{7 \times 8}{15 \times 14})$ oe
			or M1 for $\frac{7}{15} \times \frac{6}{14}$ or $\frac{7}{15} \times \frac{8}{14}$ or $\frac{8}{15} \times \frac{7}{14}$ oe
25	$y \geq 1.5$ oe $y \geq \frac{3}{4}x$ oe $y < -\frac{1}{2}x + 3$ oe	4	SC3 for $y > 1.5$ oe and $y > \frac{3}{4}x$ oe and $y \leq -\frac{1}{2}x + 3$ oe
			or B3 for any two correct inequalities or B1 for $y \geq 1.5$ oe and B2 for $y \geq \frac{3}{4}x$ oe or $y < -\frac{1}{2}x + 3$ oe or $y = \frac{3}{4}x$ oe and $y = -\frac{1}{2}x + 3$ oe or with incorrect inequality signs or B1 for $y = \frac{3}{4}x$ oe OR $y = -\frac{1}{2}x + 3$ oe or with incorrect inequality signs

Question	Answer	Marks	Partial Marks
26(a)	-17	2	M1 for $f(11)$ seen or $5 - 2(5 - 2x)$ or better
26(b)(i)	$4x^2 + 8$ oe	1	
26(b)(ii)	$\frac{5-x}{2}$ oe final answer	2	M1 for $x = 5 - 2y$ or $2x = 5 - y$ or $y - 5 = 2x$ or $\frac{y}{2} = \frac{5}{2} - x$
27	for correctly equating one set of coefficients or for correct method to eliminate one variable	M1	
	$[x =] 7$	A1	
	$[y =] 8.5$	A1	if zero scored, SC1 for 2 values satisfying one of the original equations or SC1 for both answer correct but no working
Question	Answer	Marks	Partial Marks
28(a)(i)	4	1	
28(a)(ii)	3.2	3	M1 for Σfx , allow one error or omission and M1dep for $\frac{\text{their } 128}{40}$
28(b)	27	2	M1 for $\frac{3}{40}$ or $\frac{360}{40}$
29(a)	78.7 or 78.69	3	M2 for $\tan = \frac{5}{2-1}$ oe or M1 for use of tangent oe
29(b)	$[y =] -\frac{1}{3}x + 12$ final answer	3	M1 for gradient $= -\frac{1}{3}$ M1 for substituting (6, 10) into $y = \text{their } mx + c$

