



EXAMINATIONS COUNCIL OF ESWATINI  
Eswatini General Certificate of Secondary Education

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MATHEMATICS

6880/04

SPECIMEN PAPER

Paper 4

October / November 2021 - 2023

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# ***MARK SCHEME***

***{6880/04}***

***Confidential***

Question	Answers	Marks	Notes
<b>1 (a)</b>	15.6	B2	M1 for figs $\frac{7}{45}$
<b>(b)</b>	240	B2	M1 for $\frac{4}{7} \times 560$ oe
<b>(c)</b>	600	B3	M2 for $\frac{100}{85} \times 600$  M1 for 85 or 0.85
<b>(d)</b>	3	B2	M1 for $1.12^n \times 6000 (= 8429.57)$ oe
<b>(e)</b>	(k) = 245  $\frac{245}{9}$  27.2	M1  M1  A1  [12]	
<b>2 (a)</b>	$3v + 4w = 20$ $v - w = 2$ $v = 4$ and $w = 2$	M1 M1 A1A1	

<b>(b)</b>	(3,2)	A4	M2 for $6x - 6 = 12$ ( $x = 3$ ) Or M1 for $6x - 6$ seen M1 for $(y =)3 \times 3^2 - 6 \times 3 - 7$ or M1 for 2
<b>(c)</b>	correctly elimination of x or y Same intercept  (0,5) AG	M2  A1  [11]	M1 making x or y subject
<b>3(a)(i)</b>	$7 \sin 51$ 5.44	M1 A1	
<b>(ii)</b>	$\cos^{-1}\left(\frac{3.4}{5.56}\right)$ 52.3	M1 A1	
<b>(iii)</b>	$5^2 = 9^2 + 7^2 - 2(9)(7)\cos P$ $-105 = -126\cos P$ $\cos^{-1}\left(\frac{105}{126}\right)$ 33.6°	M1 M1 M1 A1	
<b>(iv)</b>	12.036	B2	M1 for $\frac{1}{2} \times 3.4 \times 7.08$ M1 for $\sqrt{4.3^2 + 4.3^2}$
<b>(b)(i)</b>	3.04 $\tan^{-1}\left(\frac{6.2}{\text{their } 3.04}\right)$ 63.9	B2 M1 A1	
<b>(ii)</b>	$\frac{1}{3} \times 4.3^2 \times 6.2$ 38.2	M1 A1 [16]	

<b>4(a)(i)</b>	$\frac{1}{4}$	B1	
<b>(ii)</b>	0	B1	
<b>(b)(i)</b>	$\frac{4}{7}$	B1	
<b>(ii)</b>	8	B1	
<b>(c)</b>	ggwww for A and gggw for B	B1B1	
<b>(d)</b>	$\frac{11}{20}$	B1	
<b>(e)(i)</b>	$\frac{20}{30}$	B1	
<b>(ii)</b>	$\frac{14}{27}$	B2	B1 for $\frac{14}{30}$
<b>(iii)</b>	$\frac{12}{15}$	B2	B1 for $\frac{12}{30}$
		[12]	
<b>5(a)</b>	180 – 70 110	M1 A1	
<b>(b)</b>	55	B1	
<b>(c)</b>	125	B1	
<b>(d)</b>	360 – (their 125 + 47 + their 110) 90 – their 78 12	√M1 √M1 A1 [7]	
<b>6(a)(i)</b>	isolating term in $x$ 7	M1 A1	
<b>(ii)</b>	15(x-1) - 6(3) = 10(2x) removing denos -33 = 5x	M1 M1	

	$\frac{-33}{5}$ $v = \frac{5-2w}{k}$	A1	
<b>(b)</b>		B2	M1 for isolating term in $v$
<b>(c)(i)</b>	$3(v-6)$	B1	
<b>(ii)</b>	$2(x-7)(x+5)$	B3	B2 for $(2x-14)(x+5)$ or $(x-7)(2x+10)$ B1 for $2(x^2-2x-35)$
<b>(d)(i)</b>	$2y+2 = (x+3) + (x+2) + (x+3) + (x+2)$ $4y = (x+2)(x+3)$ $8x+16 = x^2 + 5x+6$ $(x+2)(x-5)$ $x = -2$ or $5$	B1 B1 M1 M1 A1A1	
<b>(ii)</b>	10.6	B2	M1 for $8^2 + 7^2$ seen
		[19]	
<b>7(a)</b>	points (4,4), (6,2), (7,4) joined	B2	B1 for 2 correct
<b>(b)(i)</b>	Enlargement (-4,-1) SF -2	B1B1B1	
<b>(ii)</b>	Reflection, $y = -x$	B1B1	
<b>(c)</b>	Points (2, -2), (3, -4), (0,-4) joined	B2	B1 for 180 rotation but in wrong position
<b>(d)</b>	Reflection in $y = x$	B1B1	
<b>(e)(i)</b>	Pre multiplying by $\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$ Points (0,4), (2,4), (2,2) joined	M2 A1	M1 for $F \begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$
<b>(ii)</b>	rotation, centre (0,0), $90^\circ$ clockwise	B1B1B1	
<b>(f)</b>	$\begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}$	B2	
		[20]	B1 for each column

<b>8(a)(i)</b>	48 to 49	B1	
<b>(ii)</b>	(IQR) 18 to 20	B2	B1 for UQ or LQ written
<b>(iii)</b>	44	B2	B1 for 16 or 60 written
<b>(b)</b>	28	B2	B1 for 32 seen
<b>(c)(i)</b>	17	B1	
<b>(ii)</b>	$(17+25+13+39+11+22+25)/7$	M1	
<b>(d)</b>	20.28 to 20.29	A1	
	$a = 9$ $p = 45^\circ$ $q = 81^\circ$	B1 B1 B1	
		[12]	
<b>9(a)</b>	15	B1	
<b>(b)</b>	$\frac{x-2}{3}$	B2	M1 for $y = 3x + 2$ or $x = 3y + 2$
<b>(c)</b>	$2(x^2 + 2x + 1)$ $2(x+1)^2$ $x + 1$	M1 M1 A1	
<b>(d)</b>	$1 - 4x + 4x^2 = 4x^2$ $1 - 4x = 0$ $\frac{1}{4}$	M1 M1 A1	
<b>(e)</b>	-17	B2	M1 for $\frac{1-x}{2} = 9$
		[11]	