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MATHEMATICS: EXAMINATION

GRADE 10 · TERM 3 · 2026

FINANCE · STATISTICS · TRIGONOMETRY · EUCLIDEAN GEOMETRY

TOTAL: 60 MARKS **TIME: 1 HOUR 15 MINUTES** **EXAMINER: B. DAVHANA**

MARKING GUIDELINE

One ✓ = one mark. Accept any other mathematically correct method.

QUESTION 1

1.1.1	Deposit = $\frac{30}{100}$ × R9 899 = R2 969,70 ✓ Balance = R9 899 − R2 969,70 = R6 929,30 ✓ OR: $\frac{70}{100}$ × R9 899 = R6 929,30	✓ 30% of the price ✓ balance	(2)
1.1.2	$A = P(1 + in)$ ✓ (substitution) = 6 929,30 $(1 + \frac{12}{100} \times 3)$ ✓ A = R9 423,85 (total payment) Monthly payment = $\frac{R9\ 423,85}{36}$ ✓ + R65,30 ✓ = R327,07 ✓	✓ substitution into the interest formula ✓ i = 0,12 and n = 3 ✓ dividing by 36 ✓ adding R65,30 ✓ answer	(5)
1.2.1	Cost of machine = $\frac{6\ 800}{27,63}$ × 16,24 ✓ = £3 996,82 ✓ George will save money if he buys the machine in the USA / the machine is cheaper in the USA. ✓	✓ converting to pounds ✓ answer ✓ conclusion	(3)
1.2.2	£800 × 27,63 ✓ = R22 104,00 ✓	✓ multiplying by 27,63 ✓ answer	(2)
		TOTAL	**[12]**

QUESTION 2

2.1.1	$50 < x \leq 60$: midpoint × frequency = 385 ✓ $60 < x \leq 70$: midpoint = 65 ✓	✓ midpoint × frequency = 385 ✓ midpoint = 65	(2)
2.1.2	Estimate of the mean = $\frac{1\ 360}{28}$ ✓ = 48,6 ✓	✓ dividing 1 360 by 28 ✓ answer	(2)
2.1.3	Midpoints correctly plotted ✓✓ Line joining the midpoints ✓	✓✓ midpoints plotted ✓ line joining the midpoints	(3)
2.1.4 (a)	$40 < x \leq 50$ ✓ (endpoint) ✓ (notation)	✓ endpoint ✓ notation	(2)

2.1.4 (b)	80th percentile position = 0,8 × 28 = 22,4 ✓ $50 < x \leq 60$ ✓	✓ position 22,4 ✓ the interval	(2)
2.2.1	Median = 64 ✓	✓ median	(1)
2.2.2	IQR = $Q_3 - Q_1$ = 74 − 53 ✓✓ = 21 ✓	✓✓ Q_3 and Q_1 read off ✓ answer	(3)
2.2.3	Minimum 45 and maximum 89 ✓ Q_1 = 53 and Q_3 = 74 ✓ Q_2 = 64 ✓	✓ minimum and maximum ✓ Q_1 and Q_3 ✓ median	(3)
2.2.4	Skewed to the left ✓✓	✓✓ skewed to the left	(2)
		TOTAL	**[20]**

QUESTION 3

3.1.1	$\sin(229{,}5° + 117{,}6°)$ ✓ = −0,22 ✓	✓ correct substitution ✓ answer	(2)
3.1.2	$\cos(2 \times 117{,}6°)$ ✓ = −0,57 ✓	✓ correct substitution ✓ answer	(2)
3.1.3	$\text{cosec}\ x = \frac{1}{\sin 229{,}5°}$ ✓ = −1,32 ✓	✓ the reciprocal of sin ✓ answer	(2)
3.2.1	$\cos 2x = 0{,}5 \rightarrow 2\square\square = 60°$ ✓ $x = 30°$ ✓	✓ $2x = 60°$ ✓ answer	(2)
3.2.2	$7 \sec x - 11 = 0 \rightarrow \sec x = \frac{11}{7}$ ✓ $\cos x = \frac{7}{11}$ ✓ $x = 50{,}5°$ ✓	✓ making sec x the subject ✓ the reciprocal: cos x ✓ answer	(3)
3.3	$\text{opp}^2 = 4^2 - 3^2 \rightarrow \text{opp} = \sqrt{7}$ ✓ Sketch in the first quadrant ✓ $\tan x = \frac{\sqrt{7}}{3}$ ✓	✓ opposite side by Pythagoras ✓ sketch in the first quadrant ✓ answer	(3)
3.4	$\text{hyp}^2 = 6^2 + 8^2 \rightarrow \text{hyp} = 10$ ✓ $\tan\theta > 0$ and $\sin\theta < 0$, so θ lies in the THIRD quadrant ✓ $x = -8$ and $y = -6$ ✓ $\sec\theta - \text{cosec}\ \theta = \frac{10}{-8} - \frac{10}{-6}$ ✓ $= \frac{5}{12}$ ✓	✓ hypotenuse = 10 ✓ third quadrant ✓ $x = -8$ and $y = -6$ ✓ correct substitution ✓ answer	(5)

3.5	$\sin 30° = \frac{x}{1\,250}$ ✓ $x = 625$ ✓	✓ correct substitution ✓ answer	(2)
		TOTAL	**[21]**

QUESTION 4

4.1	$5x + 18° = 7x - 30°$ ✓ (S/R) (opposite angles of a parallelogram) ✓ $-2x = -30° - 18°$ → $-2x = -48°$ ✓ $x = 24°$ ✓	✓ statement ✓ reason: opposite angles of a parallelogram ✓ simplification ✓ answer	(4)
4.2	$5(24°) + 18° + 4y = 180°$ ✓ (co-interior angles, LM ∥ KN) $4y = 180° - 138° = 42°$ ✓ $y = 10{,}5°$ ✓	✓ co-interior angles ✓ simplification ✓ answer	(3)
		TOTAL	**[7]**

TOTAL: 60