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KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

MATHEMATICS

COMMON TEST

SEPTEMBER 2024

MARKING GUIDELINE

NATIONAL SENIOR CERTIFICATE

GRADE 10

MARKS: 75

This marking guideline consists of 5 pages.

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QUESTION 1

1.1	Total amount $= R1029 \times 36$ $= R37\ 044$	✔Answer	(1)
1.2	$A = P(1 + i \times n)$ $37044 = P(1 + 0,082 \times 3)$ $P = R29730,34$	✔formula ✔substitution ✔answer	(3)
1.3	$A = P(1+i)^n$ $31968,11 = 29730,34(1+i)^3$ $i = \sqrt[3]{\frac{31968,11}{29730,34}} - 1$ $i = 2,45\%\ p.a$	✔formula ✔substitution ✔ $i = \sqrt[3]{\frac{31968,11}{29730,34}} - 1$ ✔answer	(4)
			[8]

QUESTION 2

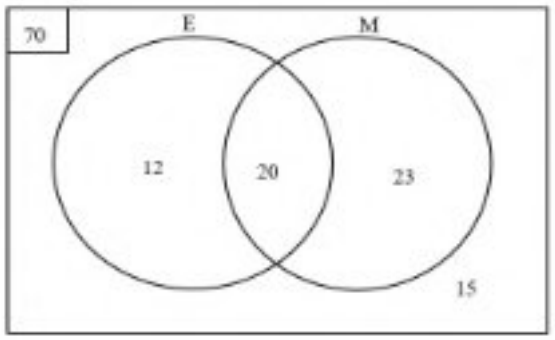
2.1	\$1 = R 18,73 \$104 = x x = R 1 947,92 per day total spending = R 9 739,6	✔✔R 1 947,92 ✔answer	(3)
2.2	$A = P(1+i)^n$ $189\ 389.80 = P(1+0,1)^4$ P = R 129 355,78	✔formula ✔✔ substitution ✔answer	(4)
			[7]

QUESTION 3

3.1.1	P(not B) = 0,5	✔answer	(1)
3.1.2	P(A or B) = P(A) + P(B) − P(A and B) = 0,4 + 0,5 − 0,25 = 0,65	✔formula ✔answer	(2)
3.1.3	P(not A and B) = 0,5 − 0,25 = 0,25	✔✔0,5 − 0,25 ✔answer	(3)

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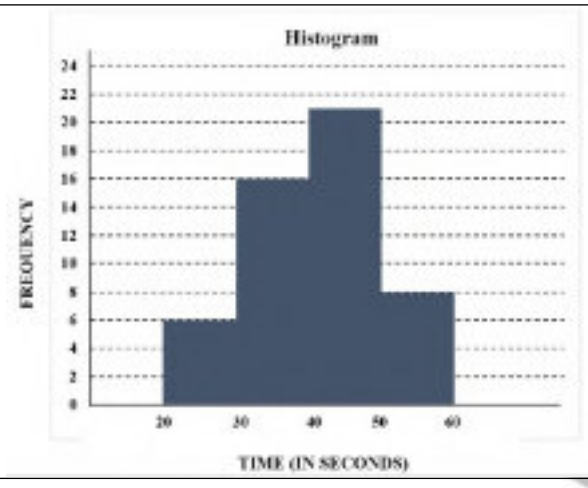
3.2	$32 - x + x + 43 - x + 15 = 70$ $x = 20$	✔$32 - x + x + 43 - x + 15$ ✔equating to 70 ✔answer	(3)
3.2.2		✔12 ✔20 ✔23 ✔15	(4)
3.2.3	(a) $P(E \text{ and } M) = \frac{20}{70} = \frac{2}{7} = 0,29$	✔✔answer	(2)
3.2.3	(b) $P(\text{At least one}) = \frac{55}{70} = \frac{11}{14} = 0,79$	✔✔answer	(2)
3.2.3	(c) $P(\text{Exactly one}) = \frac{12+23}{70} = \frac{35}{70} = \frac{1}{2} = 0,5$	✔✔answer	(2)
3.2.4	Physical science $= 43 \times 79\%$ $= 33,97$ ≈ 34 learners	✔✔ $43 \times 79\%$ ✔answer **Answer only: full marks**	(3)
			[21]

QUESTION 4

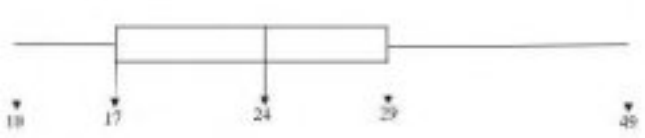
4.1.	51 athletes	✔answer	(1)
4.2	$\text{Mean } (\bar{x}) = \frac{(6 \times 25) + (16 \times 35) + (45 \times 21) + (55 \times 8)}{51}$ $= \frac{2095}{51}$ $= 41,08$	✔numerator ✔denominator ✔ 2095 ✔answer	(4)
4.3	$40 \leq x < 50$	✔answer	(1)
4.4	$30 \leq x < 40$	✔✔answer	(2)

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4.5		✔ 20-40 ✔40-50 ✔50-60	(3)
			[11]

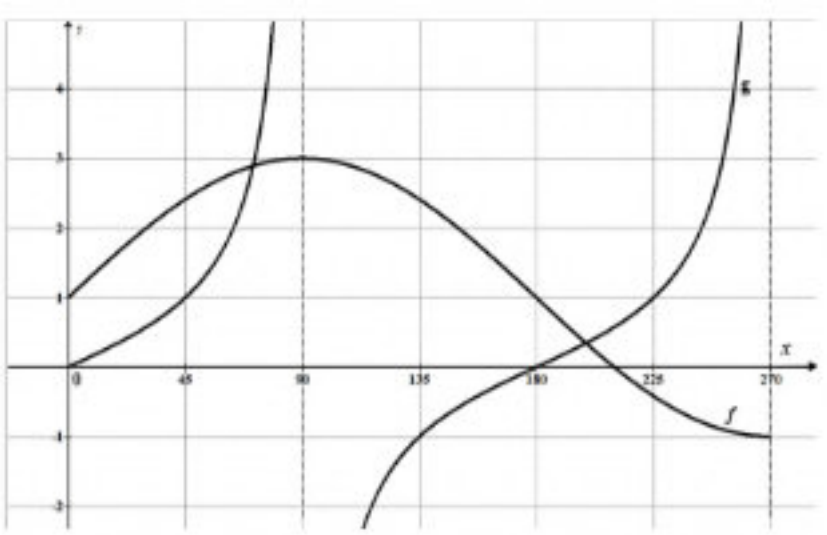
QUESTION 5

5.1	Median = 24	✔ answer	(1)
5.2.1	$\text{Mean} = \frac{387}{15}$ $= 25,8$	✔$\frac{387}{15}$ ✔answer **Answer only: full marks**	(2)
5.2.2	range = 49 − 10 =39	✔answer	(1)
5.2.3	IQR = 29 − 17 = 12	✔✔29 −17 ✔answer	(3)
5.3		✔ 10 and 49 ✔24 ✔17 and 29	(3)
5.4	$\frac{15}{50}$ is the pass mark. ∴13 learners passed.	✔pass mark ✔answer **Answer only: full marks**	(2)
			[12]

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QUESTION 6

6.1.1	a) Period = $180°$	✔answer	(1)
6.1.1	b) Range : $y \in [-1;3]$ **OR** Range: $-1 \leq y \leq 3$	✔notation ✔values	(2)
6.1.2		✔shape of f ✔shape of g ✔asymptotes of g ✔turning point of f	(4)
6.1.3	$0° \leq x < 90°$ **OR** $180° \leq x < 270°$	✔ $0° \leq x < 90$ ✔ $180° \leq x < 270°$	(2)
6.2.1	$\cos 2\theta = \frac{x}{2x} = \frac{1}{2}$ $2\theta = 60°$ $\theta = 30°$	✔ $\cos 2\theta = \frac{x}{2x} = \frac{1}{2}$ ✔ $2\theta = 60°$ ✔answer	(3)
6.2.2	$\cos 30° = \frac{x}{5}$ $x = 4,33$ Length of the ladder = 8,66m	✔✔ $\cos 30° = \frac{x}{5}$ ✔value of x ✔answer	(4)
			[15]
		TOTAL:	[75]

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