



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

PROVINCIAL STANDARDISED ASSESSMENT

GRADE 11

MATHEMATICS
SEPTEMBER 2026

Stanmorephysics.com

MARKS: 75

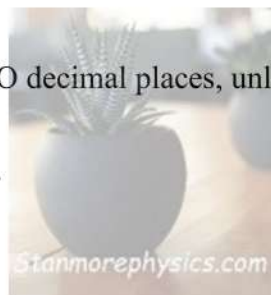
TIME: 1½ hours

This question paper consists of 7 pages and a special answer book of 10 pages

INSTRUCTIONS AND INFORMATION

Read the following instructions and information carefully before answering the questions.

1. This question paper consists of 6 questions.
2. Answer ALL the questions in the SPECIAL ANSWER BOOK provided.
3. Clearly show ALL calculations, diagrams, graphs, et cetera that you have used in determining your answers.
4. Answers only will NOT necessarily be awarded full marks.
5. You may use an approved scientific calculator (non-programmable and non-graphical), unless stated otherwise.
6. If necessary, round off answers correct to TWO decimal places, unless stated otherwise.
7. Diagrams are NOT necessarily drawn to scale.
8. Write neatly and legibly.



QUESTION 1

- 1.1 Mr Khumalo invested R10 000 into a savings account that earned simple interest at the rate of 10% per annum. How many years did it take for the investment to grow to R30 000? (2)
- 1.2 A construction vehicle was bought exactly one year ago. At present, the book value of this vehicle is R183 680.
- 1.2.1 The value of this construction vehicle depreciated annually at the rate of 18% p.a. in the first year. Calculate the original purchase price of the construction vehicle. (2)
- 1.2.2 After the first year, the value of this construction vehicle will depreciate annually at the rate of 16% p.a. on the reducing balance method for the remaining years. Calculate the book value of the construction vehicle exactly three years after it was bought. (3)
- 1.3 A bank charges interest on a credit card account at the rate of 23% p.a., compounded monthly. Convert this nominal interest rate to an effective interest rate. (3)
- 1.4 An amount of R7 500 was deposited into a savings account that earned interest at the rate of $r\%$ p.a., compounded quarterly. The accumulated amount in the account was R17 752,20 at the end of 28 quarters after the initial deposit was made.
- 1.4.1 How many years did it take for the accumulated amount in this account to grow to R17 752,20 ? (1)
- 1.4.2 Calculate the value of r , the quarterly rate of interest. (4)
- 1.5 Three women had R10 000 each. They pooled their money together and invested R30 000 in a stokvel account. Three years after making the initial deposit, they withdrew R12 000 from the account. The account paid interest at the rate of 13% p.a., compounded monthly for the first three years and changed to 14,25% p.a., compounded half-yearly thereafter. They withdrew the total accumulated amount 5 years after making the initial deposit. Calculate the amount of interest each woman received at the end of 5 years. (5)
- [20]

QUESTION 2

2.1 It is given that A and B are independent events.

2.1.1 Complete the rule for independent events in your ANSWER BOOK:

$P(A \text{ and } B) = \dots\dots\dots$ (1)

2.1.2 It is further given that $P(A \text{ and } B) = \frac{3}{10}$ and $P(A) = 40\%$.

(a) Are events A and B mutually exclusive? Provide a reason for your answer. (2)

(b) Calculate $P(B)$ (2)

2.2 There are 50 learners in Grade 11 at a certain school. Each of them takes part in at least one of these three extra-mural activities: plays Piano (P), Swims (S) or plays Cricket (C).

A survey of these 50 learners provided the following information:

- x learners play cricket only.
- 30 learners play piano.
- 24 learners swim.
- 16 learners swim and play piano.
- 9 learners swim and play cricket.
- 9 learners play piano and cricket, but don't swim.
- 4 learners play piano, swim and play cricket.

2.2.1 Draw a Venn Diagram to represent the above information. (3)

2.2.2 Calculate the probability of randomly selecting a learner who plays cricket only. (3)

2.2.3 Are the events playing piano and swimming independent? Show all necessary calculations to support your answer. (4)

2.3 Sarah was given a keyholder that contains 6 keys that fit a lock. However, only 2 of these keys will open the lock. She randomly selects a key from the keyholder and tries to open the lock. If the key does not open the lock, she removes it from the keyholder and puts it in her pocket. She repeats the process by randomly selecting one of the remaining keys in the keyholder. Calculate the probability that Sarah will open the lock in her first THREE tries.

(5)
[20]

QUESTION 3

A newly-formed boxing club had 15 members when it opened. Their weights (in kg) are shown in the table below.

69	80	81	91	92	92	96	97	100	105	109	110	112	115	129
----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----

- 3.1 Calculate the mean weight of the boxers. (2)
 - 3.2 Write down the standard deviation of the data. (1)
 - 3.3 Calculate the number of boxers whose weight is more than one standard deviation above the mean weight. (2)
 - 3.4 One week after opening, 3 more boxers joined the club. The mean weight of all 18 boxers is 100 kg. Calculate the combined weight of the three new boxers. (2)
- [7]**

QUESTION 4

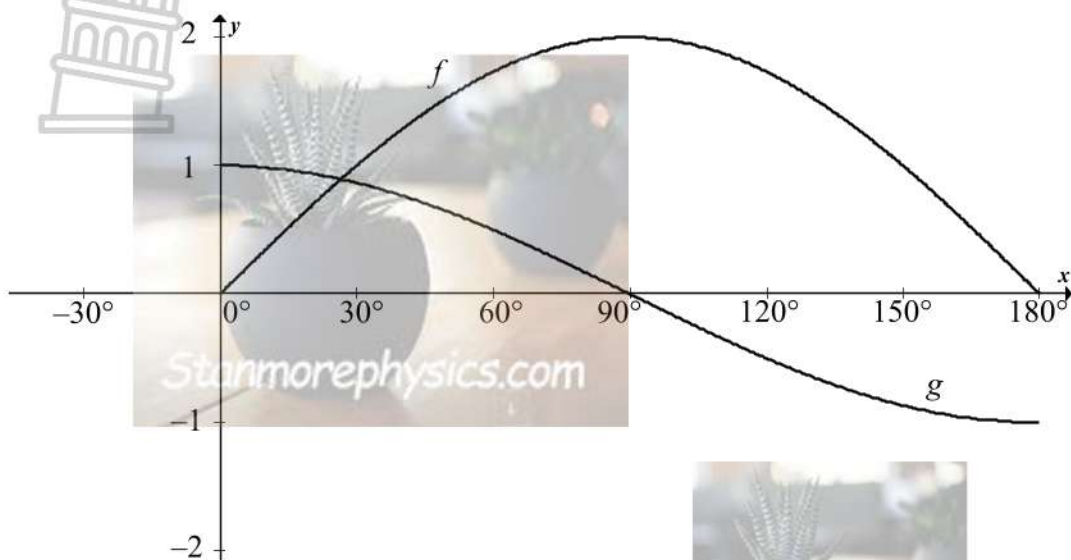
The table below shows the marks obtained by 32 learners who wrote a Mathematics test out of 100 marks.

Marks obtained (out of 100)	Number of learners
$20 \leq x < 30$	5
$30 \leq x < 40$	5
$40 \leq x < 50$	10
$50 \leq x < 60$	7
$60 \leq x < 70$	3
$70 \leq x < 80$	1
$80 \leq x < 90$	1

- 4.1 Write down the modal class of the data. (1)
 - 4.2 Complete the cumulative frequency column of the table in your ANSWER BOOK. (2)
 - 4.3 Draw an ogive (cumulative frequency graph) in your ANSWER BOOK to represent the above information. (3)
 - 4.4 Use your graph to estimate the percentage of learners who obtained more than 55 marks. (2)
- [8]**

QUESTION 5

In the diagram below, the graphs of $f(x) = c \sin x$ and $g(x) = d \cos x$ are drawn for $x \in [0^\circ; 180^\circ]$.

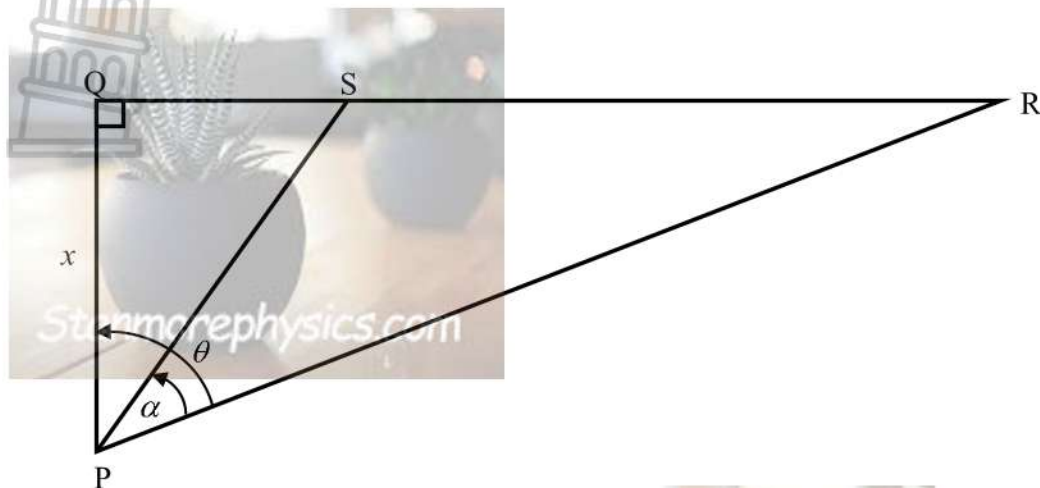


- 5.1 Write down the values of c and d . (2)
- 5.2 Write down the period of f . (1)
- 5.3 Write down the value of x for which $f(x) - g(x) = 2$. (1)
- 5.4 Calculate the value of x for which $\cos dx = c \sin x$ in the interval $x \in [0^\circ; 180^\circ]$. (2)
- 5.5 Determine the value(s) of x for which $x \cdot g(x) < 0$ in the interval $x \in [0^\circ; 180^\circ]$. (2)
- 5.6 If $k(x) = f(x - 15^\circ) - 1$, write down the coordinates of the turning point of k in the interval $x \in [0^\circ; 180^\circ]$. (2)

[10]

QUESTION 6

In the diagram, $\triangle PQR$ is right-angled at Q and QR is 3 units. S is a point on QR such that $QR = 3QS$. $PQ = x$ units, $\hat{QPR} = \theta$ and $\hat{SPR} = \alpha$.



6.1 Write down the size of $\hat{QPS}$ in terms of θ and α . (1)

6.2 Show that $PS = \frac{x}{\cos(\theta - \alpha)}$ (2)

6.3 Prove that $x = \frac{2 \cos \theta \cos(\theta - \alpha)}{\sin \alpha}$. (3)

6.4 Calculate the area of $\triangle PSR$ if it is further given that $\theta = 63,43^\circ$ and $\alpha = 29,74^\circ$. (4)

[10]

TOTAL MARKS: 75



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

PROVINCIAL STANDARDISED ASSESSMENT

GRADE 11

MATHEMATICS

SEPTEMBER 2026

SPECIAL ANSWER BOOK

Name and Surname:

Marks: 75

Time: 1½ hours

Question	Marks	
1		
2		
3		
4		
5		
6		
TOTAL		

N.B. This answer book consists of 9 pages and an extra page with ADDITIONAL SPACE.

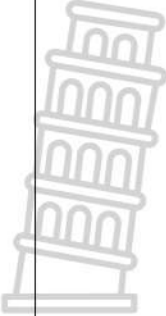
QUESTION 1

	Solution	Marks
1.1		(2)
1.2.1		(2)
1.2.2		(3)
1.3		(3)
1.4.1		(1)

	Solution	Marks
1.4.2		(4)
1.5		(5)
		[20]

QUESTION 2

	Solution	Marks
2.1.1	$P(A \text{ and } B) =$	(1)
2.1.2(a)		(2)
(b)		(2)

2.2.1		(3)
2.2.2		(3)
2.2.3		(4)
2.3		(5)
		[20]

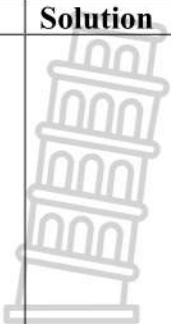
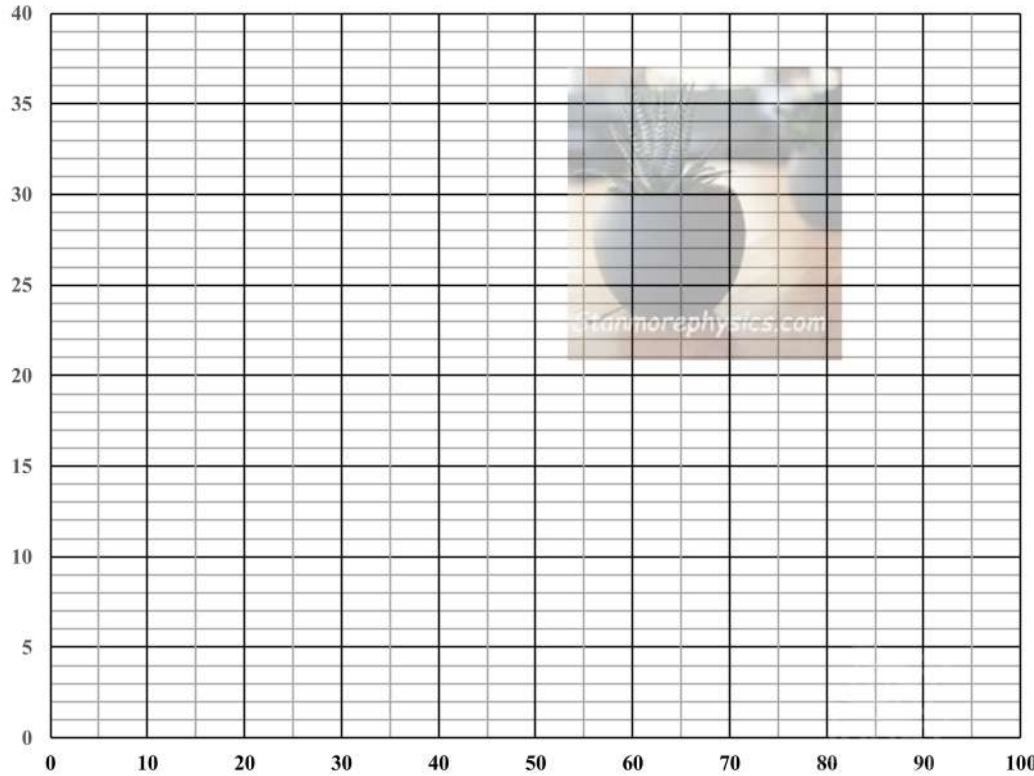
QUESTION 3

69	80	81	91	92	92	96	97	100	105	109	110	112	115	129
----	----	----	----	----	----	----	----	-----	-----	-----	-----	-----	-----	-----

	Solution	Marks
3.1		(2)
3.2		(1)
3.3		(2)
3.4		(2)
		[7]

QUESTION 4

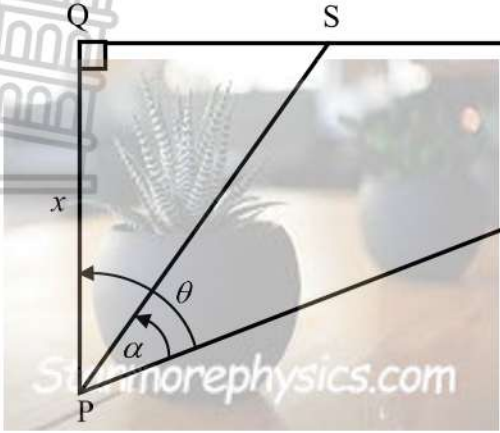
	Solution	Marks
4.1		(1)

	Solution	Marks																								
4.2	 <table><thead><tr><th>Marks obtained (out of 100)</th><th>Number of learners</th><th>Cumulative frequency</th></tr></thead><tbody><tr><td>$20 \leq x < 30$</td><td>5</td><td></td></tr><tr><td>$30 \leq x < 40$</td><td>5</td><td></td></tr><tr><td>$40 \leq x < 50$</td><td>10</td><td></td></tr><tr><td>$50 \leq x < 60$</td><td>7</td><td></td></tr><tr><td>$60 \leq x < 70$</td><td>3</td><td></td></tr><tr><td>$70 \leq x < 80$</td><td>1</td><td></td></tr><tr><td>$80 \leq x < 90$</td><td>1</td><td></td></tr></tbody></table>	Marks obtained (out of 100)	Number of learners	Cumulative frequency	$20 \leq x < 30$	5		$30 \leq x < 40$	5		$40 \leq x < 50$	10		$50 \leq x < 60$	7		$60 \leq x < 70$	3		$70 \leq x < 80$	1		$80 \leq x < 90$	1		(2)
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4.3	OGIVE  Marks obtained (out of 100)	(3)																								
4.4	<table><tr><td></td></tr><tr><td></td></tr><tr><td></td></tr><tr><td></td></tr><tr><td></td></tr></table>						(2)																			
		[8]																								

QUESTION 5

Solution		Marks
5.1		(2)
5.2		(1)
5.3		(1)
5.4		(2)
5.5		(2)
5.6		(2)
		[10]

QUESTION 6

	Solution	Marks
		
6.1		
		(1)
6.2		
		(2)
6.3		
		(3)



MARKS

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Additional space

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[illegible]



KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

PROVINCIAL STANDARDISED ASSESSMENT

GRADE 11

MATHEMATICS
SEPTEMBER 2026
MARKING GUIDELINES

Stanmorephysics.com

MARKS: 75

These marking guidelines consist of 11 pages.

QUESTION 1

1.1	$A = P(1 + i.n)$ $30\,000 = 10\,000(1 + 0,10.n)$ $\frac{30\,000}{10\,000} = 1 + 0,10.n$ $n = \frac{3-1}{0,10}$ $n = 20$	B/D incorrect formula	✓A correct substitution ✓CA answer (2)
1.2.1	$A = P(1-i)^n$ $183\,680 = P(1-0,18)^1$ $P = \frac{183\,680}{(1-0,18)}$ $P = R\,224\,000$ OR $A = P(1 - i.n)$ $183\,680 = P(1-0,18 \times 1)$ $P = \frac{183\,680}{(1-0,18)}$ $P = R\,224\,000$	B/D incorrect formula B/D incorrect formula	✓A correct substitution ✓CA answer (2) ✓A correct substitution ✓CA answer (2)
1.2.2	$A = P(1-i)^n$ $= R\,183\,680(1-0,16)^2$ $= R\,129\,604,61$ OR $A = P(1-i)^n$ $= R\,224\,000(1-0,18)(1-0,16)^2$ $= R\,129\,604,61$	B/D incorrect formula After value of n B/D incorrect formula After value of n	✓A $n=2$ ✓A correct substitution ✓CA answer (3) ✓A $n=2$ ✓A correct substitution ✓CA answer (3)
1.3	$1 + i_{eff} = \left(1 + \frac{i_{nom}}{m}\right)^m$ $1 + i_{eff} = \left(1 + \frac{0,23}{12}\right)^{12}$ $i_{eff} = \left[\left(1 + \frac{0,23}{12}\right)^{12} - 1\right] \times 100\%$ $= 25,59\% \text{ per annum}$	B/D incorrect formula	✓A correct formula ✓A correct subst. into correct formula ✓CA answer (3)

1.4.1	$n = 7$ years	✓ A answer (1)
1.4.2	$A = P(1+i)^n$ $R\ 17\ 752,20 = R\ 7\ 500 \left(1 + \frac{i}{4}\right)^{28}$ $1 + \frac{i}{4} = \sqrt[28]{\frac{17\ 752,20}{7\ 500}}$ $i = 4 \left(\sqrt[28]{\frac{17\ 752,20}{7\ 500}} - 1\right)$ $r = 12,50$	✓ A correct A & P ✓ A $\left(1 + \frac{i}{4}\right)^{28}$ ✓ CA simplification using $\sqrt[28]{}$ ✓ CA answer (4)
1.5	$A = P(1+i)^n$ $A = R30\ 000 \left(1 + \frac{0,13}{12}\right)^{36} - R12\ 000$ $A_3 = R32\ 216,5881$ $A = R32\ 216,5881 \left(1 + \frac{0,1425}{2}\right)^4$ $A_5 = R42\ 427,05$ $\text{Interest} = \frac{(R42\ 427,05 + R12\ 000) - R30\ 000}{3}$ $\text{Interest} = R8\ 142,35$ OR $A = P(1+i)^n$ $A = \left(R30\ 000 \left(1 + \frac{0,13}{12}\right)^{36} - R12\ 000 \right) \left(1 + \frac{0,1425}{2}\right)^4$ $A = R42\ 427,05$ $\text{Interest} = \frac{(R42\ 427,05 + R12\ 000) - R30\ 000}{3}$ $\text{Interest} = R8\ 142,35$	✓ A correct subst. ✓ A $-R12\ 000$ if P is R30 000 ✓ A $\left(1 + \frac{0,1425}{2}\right)^4$ ✓ M $(R42\ 427,05 + R12\ 000)$ or $(R4\ 142,35 + R4\ 000)$ ✓ CA answer (5)
		✓ A $R30\ 000 \left(1 + \frac{0,13}{12}\right)^{36}$ ✓ A $-R12\ 000$ ✓ A $\left(1 + \frac{0,1425}{2}\right)^4$ ✓ M $(R42\ 427,05 + R12\ 000)$ or $(R4\ 142,35 + R4\ 000)$ ✓ CA answer (5)

GRADE 11
Marking Guidelines

OR

$$A = P(1+i)^n$$

$$A = R10\,000 \left(1 + \frac{0,13}{12}\right)^{36} - R\,4000$$

$$A_3 = R10\,738,8627$$

$$A = R10\,738,8627 \left(1 + \frac{0,1425}{2}\right)^4$$

$$\text{Interest} = (R14\,142,35 + R\,4000) - R10\,000$$

$$\text{Interest} = R8\,142,35$$

OR

$$A = P(1+i)^n$$

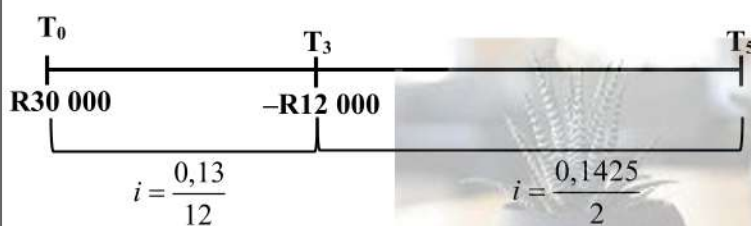
$$A = \left(R10\,000 \left(1 + \frac{0,13}{12}\right)^{36} - R\,4000 \right) \left(1 + \frac{0,1425}{2}\right)^4$$

$$A = R14\,142,35$$

$$\text{Interest} = (R14\,142,35 + R\,4000) - R10\,000$$

$$\text{Interest} = R8\,142,35$$

OR



$$A = 3000 \left(1 + \frac{0,13}{12}\right)^{36} \left(1 + \frac{0,1425}{2}\right)^4 - 12000 \left(1 + \frac{0,1425}{2}\right)^4$$

$$= R42427,05$$

$$\text{Interest} = \frac{(R42\,427,05 + R12\,000) - R30\,000}{3}$$

$$\text{Interest} = R8\,142,355$$

✓ A correct substitution

✓ A -R 4000 if P is R10 000

$$\checkmark A \left(1 + \frac{0,1425}{2}\right)^4$$

✓ M (R14 142,35 + R4 000) or (R4 142,35 + R4 000)

✓ CA answer

(5)

$$\checkmark A \quad R10\,000 \left(1 + \frac{0,13}{12}\right)^{36}$$

✓ A -R 4000 if P is R10 000

$$\checkmark A \left(1 + \frac{0,1425}{2}\right)^4$$

✓ M (R14 142,35 + R4 000) or (R4 142,35 + R4 000)

✓ CA answer

(5)

OR

$$\checkmark A \quad R30\,000 \left(1 + \frac{0,13}{12}\right)^{36}$$

$$\checkmark A \left(1 + \frac{0,1425}{2}\right)^4$$

$$\checkmark A \quad -R12\,000 \left(1 + \frac{0,1425}{2}\right)^4$$

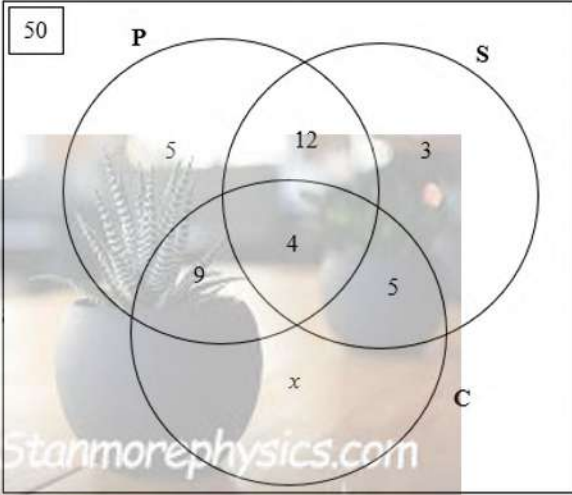
✓ M (R42 427,05 + R12 000) or (R4 142,35 + R4 000)

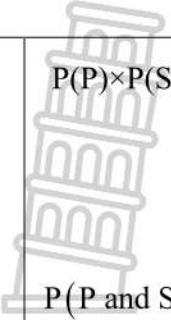
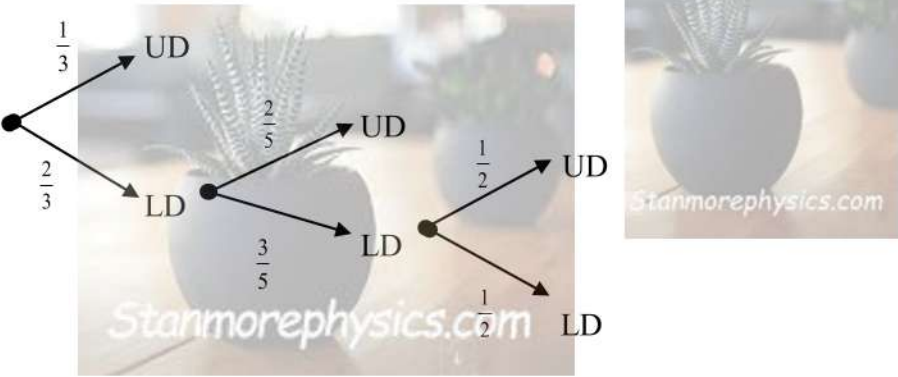
✓ CA answer

(5)

[20]

QUESTION 2

2.1.1	$P(A \text{ and } B) = P(A) \times P(B)$	✓ A answer (1)
2.1.2 (a)	No. $P(A \text{ and } B) \neq 0$	✓ A No. ✓ A reason (Also accept any relevant reason/response) (2)
(b)	$P(A \text{ and } B) = P(A) \times P(B)$ $\frac{3}{10} = 40\% \times P(B)$ $P(B) = \frac{0,3}{0,4}$ $P(B) = \frac{3}{4}$ or 0,75 or 75%	✓ CA substitution ✓ CA answer (2)
2.2.1		✓ A 4 ✓ A 9, 12 & 5 ✓ A 5, 3 & x (3)
2.2.2	$5 + 12 + 3 + 9 + 4 + 5 + x = 50$ $38 + x = 50$ $x = 12$ $P(C \text{ only}) = \frac{12}{50}$ $= \frac{6}{25}$ or 0,24 or 24%	✓ CA simplification ✓ CA value of x ✓ CA answer (3)

2.2.3	 $P(P) \times P(S) = \frac{30}{50} \times \frac{24}{50}$ $= \frac{36}{125} \text{ or } 0,29 \text{ or } 29\%$ $P(P \text{ and } S) = \frac{16}{50}$ $= \frac{8}{25} \text{ or } 0,32 \text{ or } 32\%$ $P(P \text{ and } S) \neq P(P) \times P(S)$ $\therefore \text{Not independent}$	$\checkmark A \quad \frac{30}{50} \times \frac{24}{50}$ $\checkmark CA \quad \frac{36}{125} \text{ or } 0,29 \text{ or } 29\%$ $\checkmark A \quad \frac{8}{25} \text{ or } 0,32 \text{ or } 32\%$ $\checkmark CA \text{ conclusion}$ (4)
2.3	UD = Unlocks the door & LD = locks the door  P(lock opened in first three tries) = P(1st key opened) or P(2nd key opened) or P(3rd key opened) $= \frac{1}{3} + \left(\frac{2}{3} \times \frac{2}{5} \right) + \left(\frac{2}{3} \times \frac{3}{5} \times \frac{1}{2} \right)$ $= \frac{1}{3} + \frac{4}{15} + \frac{1}{5}$ $= \frac{4}{5} \text{ or } 0,8 \text{ or } 80\%$	$\checkmark\checkmark A \quad P(1^{\text{st}} \text{ key}) = \frac{1}{3}$ $\checkmark CA \quad P(2^{\text{nd}} \text{ key})$ $= \frac{2}{3} \times \frac{2}{5} = \frac{4}{15}$ $\checkmark CA \quad P(3^{\text{rd}} \text{ key})$ $= \frac{2}{3} \times \frac{3}{5} \times \frac{1}{2} = \frac{1}{5}$ $\checkmark CA \text{ answer}$ (5)

	OR Does not open the lock in the first three tries: $P(\text{not open lock in 1st three tries}) = \frac{4}{6} \times \frac{3}{5} \times \frac{2}{4}$ $= \frac{1}{5}$ $P(\text{open lock in 1st three tries}) = 1 - P(\text{not open lock in 1st three tries})$ $= 1 - \frac{1}{5}$ $= \frac{4}{5} \text{ or } 0,8 \text{ or } 80\%$	✓A $\frac{4}{6}$ or $\frac{2}{3}$ ✓CA $\left(\frac{3}{5} \times \frac{2}{4}\right)$ or $\left(\frac{3}{5} \times \frac{1}{2}\right)$ ✓CA $\frac{1}{5}$ ✓CA subtraction ✓CA answer (5)
[20]		

QUESTION 3

3.1	$\bar{x} = \frac{1478}{15}$ $= 98,53$	A✓ 1478 CA✓ Answer (2)
3.2	$\sigma = 14,92$	A✓ answer (1)
3.3	$\bar{x} + 1\sigma = 98,53 + 14,92$ $= 113,45$ ∴ 2 boxers	CA✓ $\bar{x} + 1\sigma$ CA✓ answer (2)
3.4	Let the combined weight be = x: $\therefore \frac{1478 + x}{18} = 100$ $x = (100 \times 18) - 1478$ $= 322$ ∴ combined weight = 322 kg	CA✓ $\frac{\text{sum of 15 weights} + x}{18} = 100$ CA✓ answer (2)
[7]		

GRADE 11
Marking Guidelines

QUESTION 4

4.1	$40 \leq x < 50$	A✓ answer (1)																								
4.2	<table border="1"> <thead> <tr> <th>Marks obtained (out of 100)</th><th>Number of learners</th><th>Cumulative frequency</th></tr> </thead> <tbody> <tr> <td>$20 \leq x < 30$</td><td>5</td><td>5</td></tr> <tr> <td>$30 \leq x < 40$</td><td>5</td><td>10</td></tr> <tr> <td>$40 \leq x < 50$</td><td>10</td><td>20</td></tr> <tr> <td>$50 \leq x < 60$</td><td>7</td><td>27</td></tr> <tr> <td>$60 \leq x < 70$</td><td>3</td><td>30</td></tr> <tr> <td>$70 \leq x < 80$</td><td>1</td><td>31</td></tr> <tr> <td>$80 \leq x < 90$</td><td>1</td><td>32</td></tr> </tbody> </table>	Marks obtained (out of 100)	Number of learners	Cumulative frequency	$20 \leq x < 30$	5	5	$30 \leq x < 40$	5	10	$40 \leq x < 50$	10	20	$50 \leq x < 60$	7	27	$60 \leq x < 70$	3	30	$70 \leq x < 80$	1	31	$80 \leq x < 90$	1	32	A✓ first four values correct A✓ last three values correct (2)
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$70 \leq x < 80$	1	31																								
$80 \leq x < 90$	1	32																								
4.3	Marks obtained	✓ A all points plotted at upper limits ✓ A shape – smooth curve ✓ A grounding at (20 ; 0) (3)																								
4.4	No of learners = $32 - 24$ = 8 Percentage = $\frac{8}{32} \times 100$ = 25%	CA✓ number of learners (Allow 7 to 9) CA✓ answer (Allow 21,88% to 28,13%) (2)																								
		[8]																								

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QUESTION 5

5.1	$c = 2$ $d = 1$	A✓ $c = 2$ A✓ $d = 1$ (2)
5.2	Period = 360°	A✓ answer (1)
5.3	$x = 90^\circ$	A✓ answer (1)
5.4	$\cos x - 2 \sin x = 0$ $\cos x = 2 \sin x$ $\tan x = \frac{1}{2}$ $x = 26,57^\circ$	CA✓ $\tan x = \frac{1}{2}$ CA✓ answer (2)
5.5	$x \in (90^\circ ; 180^\circ]$ OR $90^\circ < x \leq 180^\circ$	AA✓✓ answer (2) AA✓✓ answer (2)
5.6	$(105^\circ ; 1)$	A✓ x -coordinate A ✓ y -coordinate (2)
		[10]

QUESTION 6

6.1	$\hat{QPS} = \theta - \alpha$	✓ A answer (1)
6.2	In ΔQPS : $\cos \hat{QPS} = \frac{PQ}{PS}$ $\cos(\theta - \alpha) = \frac{x}{PS}$ $PS = \frac{x}{\cos(\theta - \alpha)}$	✓ A correct ratio ✓ A substitution (2)

6.3	 In ΔPQR: $\hat{R} = 90^\circ - \theta$ In ΔPSR: $\frac{PS}{\sin \hat{R}} = \frac{SR}{\sin \hat{S}PR}$ $\frac{PS}{\sin(90^\circ - \theta)} = \frac{2}{\sin \alpha}$ $\therefore PS = \frac{2 \cos \theta}{\sin \alpha}$ $\therefore \frac{x}{\cos(\theta - \alpha)} = \frac{2 \cos \theta}{\sin \alpha}$ $x = \frac{2 \cos \theta \cos(\theta - \alpha)}{\sin \alpha}$	✓ A size of $\hat{R}$ ✓ A substitution into sine rule ✓ A simplification or equating (3)
6.4	$x = \frac{2 \cos 63,43^\circ \cos(63,43^\circ - 29,74^\circ)}{\sin 29,74^\circ}$ $= 1,50$ units $\therefore PS = \frac{1.50}{\cos 33,69^\circ}$ $= 1,80$ units $PR^2 = (1.50)^2 + (3)^2$ $PR = 3,55$ units Area $\Delta PSR = \frac{1}{2}(PS)(PR)(\sin \hat{S}PR)$ $= \frac{1}{2}(1.80)(3,55)(\sin 29,74^\circ)$ $= 1,50$ square units OR $x = \frac{2 \cos 63,43^\circ \cos(63,43^\circ - 29,74^\circ)}{\sin 29,74^\circ}$ $= 1,50$ units $\therefore PS = \frac{1.50}{\cos 33,69^\circ}$ $= 1,80$ units $\hat{P}SR = 90^\circ + 33,69$ $= 123,69^\circ$ Area $\Delta PSR = \frac{1}{2}(PS)(SR)(\sin \hat{P}SR)$ $= \frac{1}{2}(1.80)(2)(\sin 123,69^\circ)$ $= 1,50$ square units OR	 ✓ A value of x ✓ CA length of PS ✓ CA substitution into area rule ✓ CA answer (4) ✓ A value of x ✓ CA length of PS ✓ CA substitution into area rule ✓ CA answer (4)

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	$x = \frac{2 \cos 63,43^\circ \cos (63,43^\circ - 29,74^\circ)}{\sin 29,74^\circ}$ $= 1,50 \text{ units}$ Area $\Delta PSR = \text{Area } \Delta PQR - \text{Area } \Delta PQS$ $= \frac{1}{2}(QR)(QP) - \frac{1}{2}(QS)(QP)$ $= \frac{1}{2}(3)(1,50) - \frac{1}{2}(1)(1,50)$ $= 1,50 \text{ square units}$	✓ A value of x ✓ CA Area ΔPQR ✓ CA Area ΔPQS ✓ CA answer (4)
		[10]

TOTAL: 75 MARKS

