



## KWAZULU-NATAL PROVINCE

EDUCATION  
REPUBLIC OF SOUTH AFRICA

### NATIONAL SENIOR CERTIFICATE

GRADE 10

MATHEMATICS PAPER 2  
NOVEMBER 2025

[Stanmorephysics.com](http://Stanmorephysics.com)

MARKS : 100

TIME: 2 hours

This question paper consists of 11 pages, including an information sheet.

**INSTRUCTIONS AND INFORMATION**

Read the following instructions carefully before answering the questions.

1. This question paper consists of 9 questions.
2. Answer ALL the questions.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Clearly show ALL calculations, diagrams, graphs, etc. which you have used in determining your answers.
5. Answers only will NOT necessarily be awarded full marks.
6. You may use an approved scientific calculator (non-programmable and non-graphical), unless stated otherwise.
7. If necessary, round off answers correct to TWO decimal places, unless stated otherwise.
8. Write neatly and legibly.

**QUESTION 1**

The table below shows the number of public schools from the NINE provinces in South Africa.



Provinces	Number of public schools
Eastern Cape	5 468
Free State	1 214
Gauteng	$x$
KwaZulu-Natal	5 895
Limpopo	3 867
Mpumalanga	1 725
Northern Cape	544
North West	1 472
Western Cape	1 450
<b>Total</b>	<b>23 718</b>

- 1.1 Determine the value of  $x$ . (1)
- 1.2 Calculate the mean number of schools in South Africa. (2)
- 1.3 Write down the median province. (1)
- 1.4 Determine the interquartile range. (3)
- 1.5 Due to the population increase in South Africa, 0,68% more schools will be required in the next 15 years. Determine the number of schools needed in the next 15 years. (2)

[9]

**QUESTION 2**

The following table represents the grade 10 mathematics test results at Excel Secondary School.

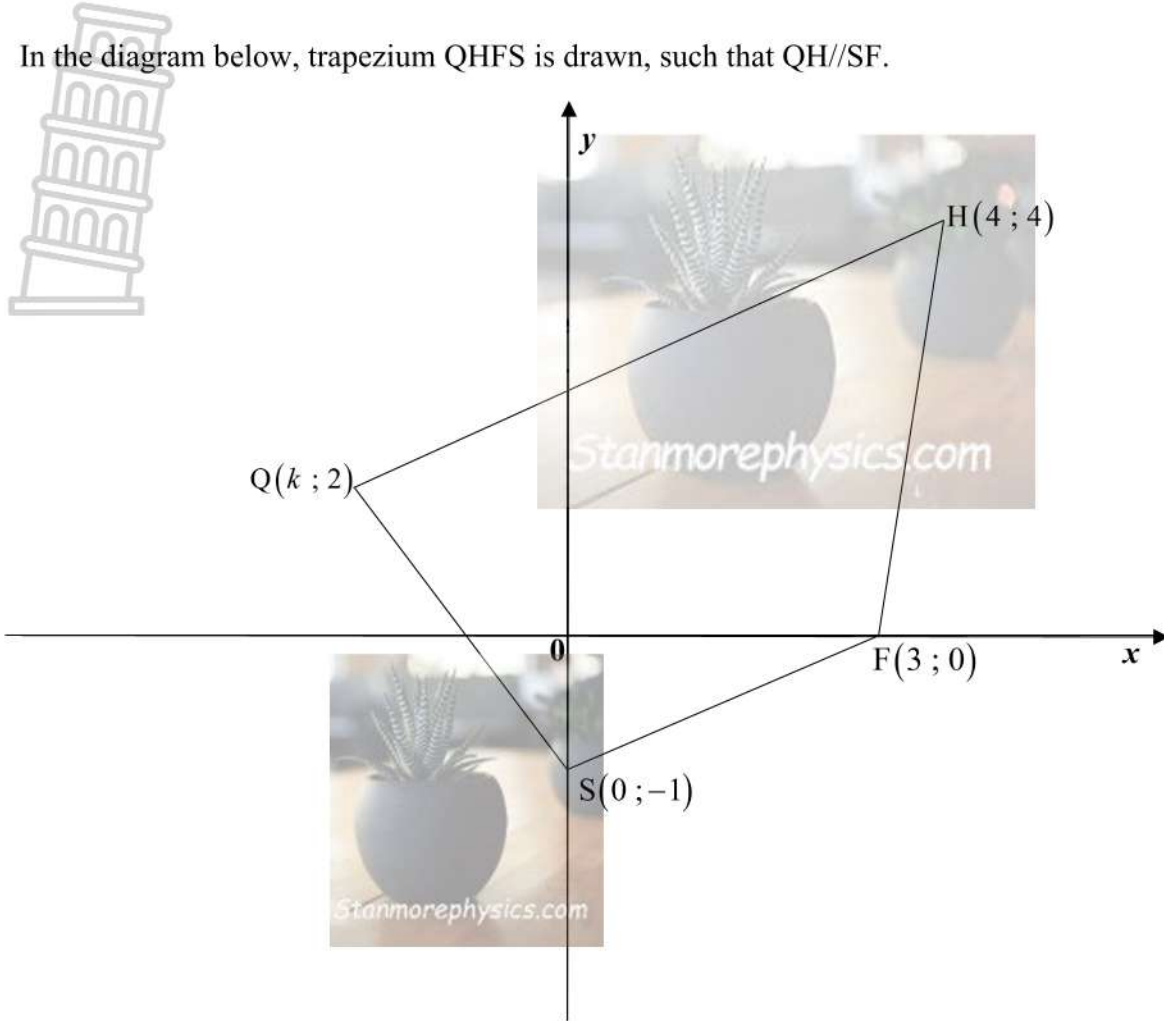
MARKS (in %)	FREQUENCY
$20 \leq x < 30$	6
$30 \leq x < 40$	11
$40 \leq x < 50$	9
$50 \leq x < 60$	7
$60 \leq x < 70$	8
$70 \leq x < 80$	13
$80 \leq x < 90$	6

- 2.1 How many learners wrote the test? (1)
- 2.2 Calculate the estimated mean. (4)
- 2.3 Calculate the percentage of learners who obtained less than SIXTY PERCENT. (2)

[7]

**QUESTION 3**

3.1 In the diagram below, trapezium QHFS is drawn, such that  $QH \parallel SF$ .



3.1.1 Determine the gradient of SF. (2)

3.1.2 Determine the equation of QH. (3)

3.1.3 Calculate the value of  $k$ . (2)

3.1.4 Determine the length of HF. (2)

3.1.5 Calculate the coordinates of M, the midpoint of HS. (3)

3.2 Line segment AB is perpendicular to the segment CD.  $A(-5; 2)$  and  $B(p; -1)$  are points on AB. If the gradient of segment CD is 2, calculate the value of  $p$ . (3)

[15]

**QUESTION 4**

4.1 If  $x = 67,7^\circ$  and  $y = 52,3^\circ$ . Calculate the following correct to TWO decimal places.

4.1.1  $\frac{\sin x}{2}$  (2)

4.1.2  $\cos(3y)$  (2)

4.1.3  $\operatorname{cosec}\left(\frac{x-y}{2}\right)$  (2)

4.2 Solve for  $\theta$  in the following equations (correct to ONE decimal place).

4.2.1  $3 + \cos 4\theta = 3,706$  (3)

4.2.2  $4 \tan \theta = 7 - 4 \tan \theta$  (3)

4.3 In which quadrant does the terminal arm of the angle  $\theta$  lie if:

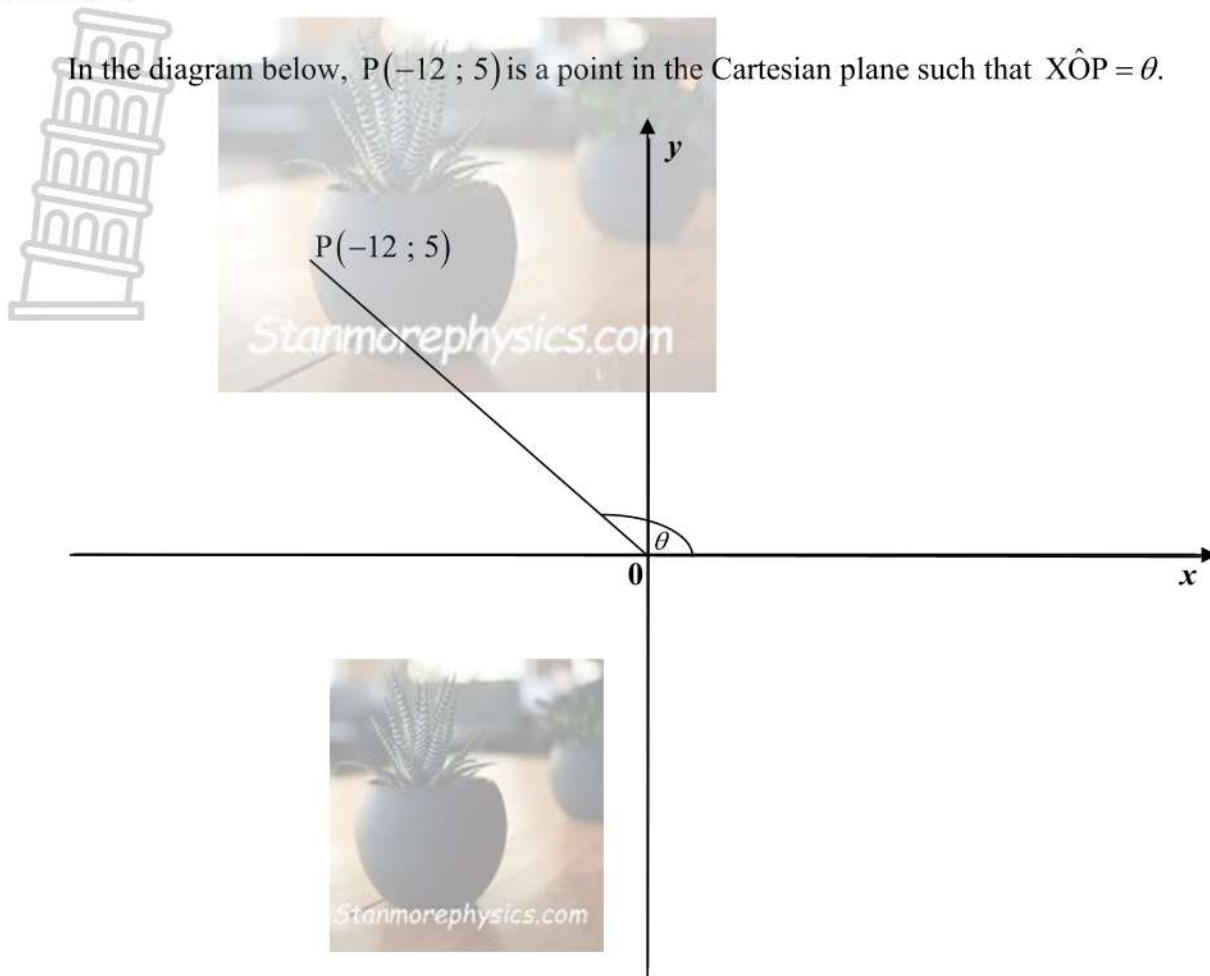
4.3.1  $\sin \theta < 0$  and  $\cos \theta < 0$  (1)

4.3.2  $\tan \theta < 0$  and  $\cos \theta > 0$  (1)

**[14]**

**QUESTION 5**

5.1 In the diagram below,  $P(-12 ; 5)$  is a point in the Cartesian plane such that  $\widehat{XOP} = \theta$ .



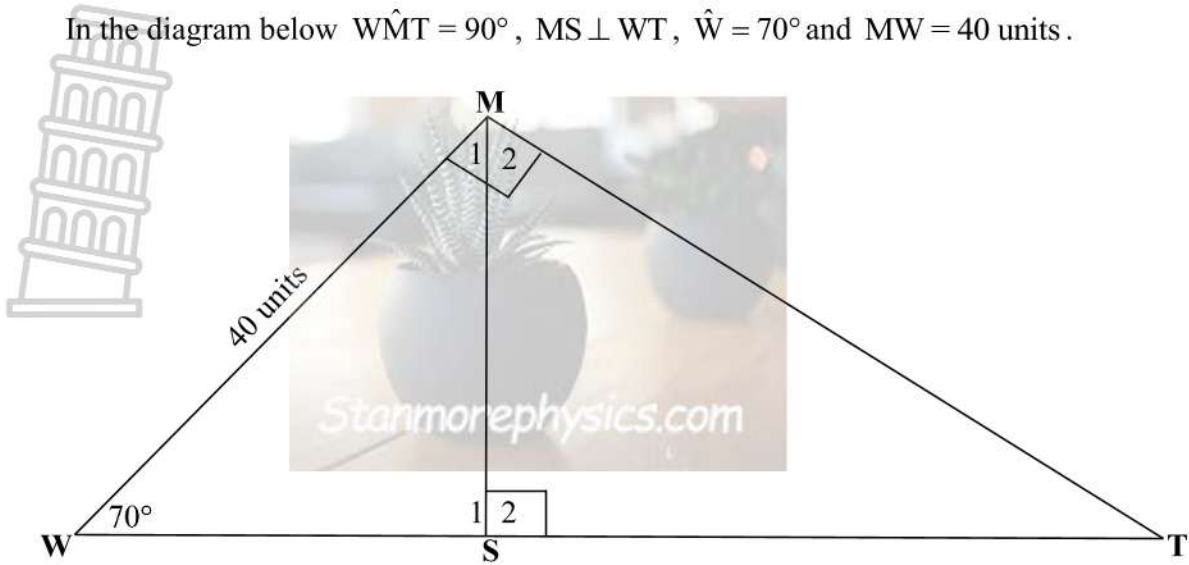
5.1.1 Calculate the length of OP. (2)

5.1.2 Hence, WITHOUT the use of a calculator, determine the value of:

a)  $\tan \theta$  (1)

b)  $(\sin \theta + \cos \theta)^2$  (3)

5.2 In the diagram below  $\widehat{WMT} = 90^\circ$ ,  $MS \perp WT$ ,  $\widehat{W} = 70^\circ$  and  $MW = 40$  units.



5.2.1 Determine the length of WS. (3)

5.2.2 Hence, or otherwise determine the length of ST. (5)

[14]

**QUESTION 6**

Given:  $g(x) = \cos x + 1$  and  $f(x) = 2 \sin x$  for  $x \in [0^\circ ; 360^\circ]$ .

6.1 On the grid provided in your SPECIAL ANSWER BOOK, sketch the graphs of  $f$  and  $g$  on the same set of axes for  $x \in [0^\circ ; 360^\circ]$ . (4)

6.2 Write down the period of  $f$ . (1)

6.3 Determine the range of  $g$ . (2)

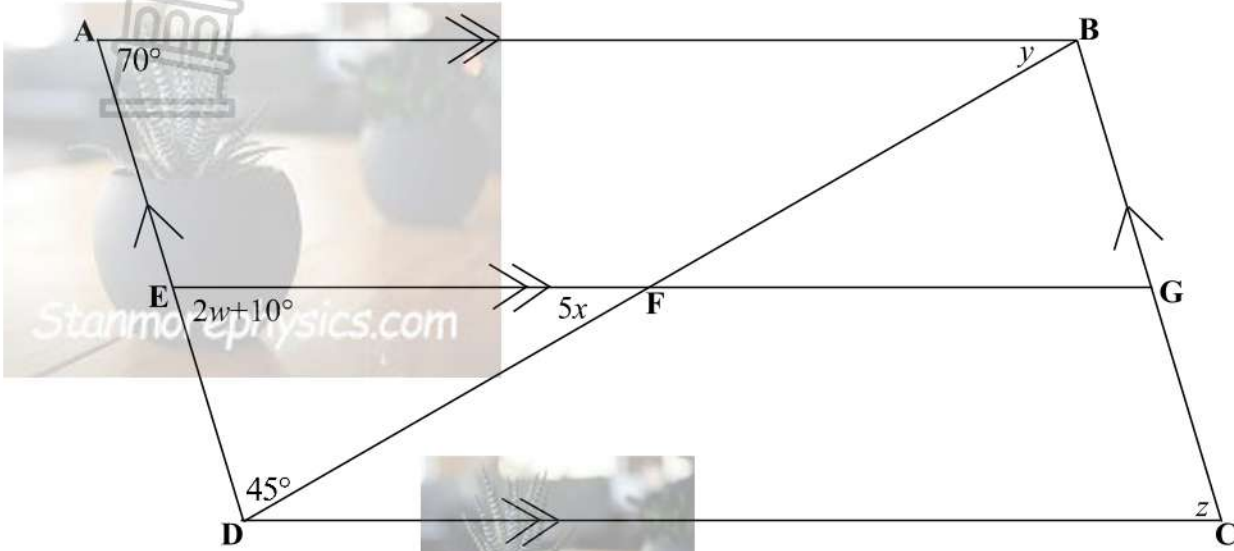
6.4 For which value of  $x$  will  $\frac{g(x) - f(x)}{3} = 1$ ? (2)

[9]

In the next TWO questions, ensure you give reasons for each statement you make.

**QUESTION 7**

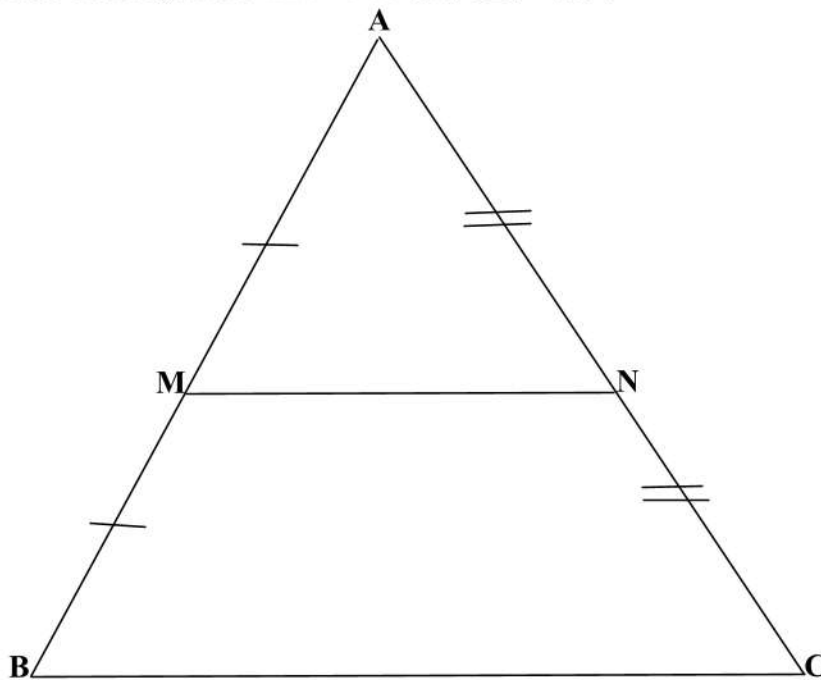
7.1 In the diagram below, ABCD is a parallelogram with  $AB \parallel EG \parallel DC$ .



7.1.1 Determine the values of  $w$  and  $x$ . (4)

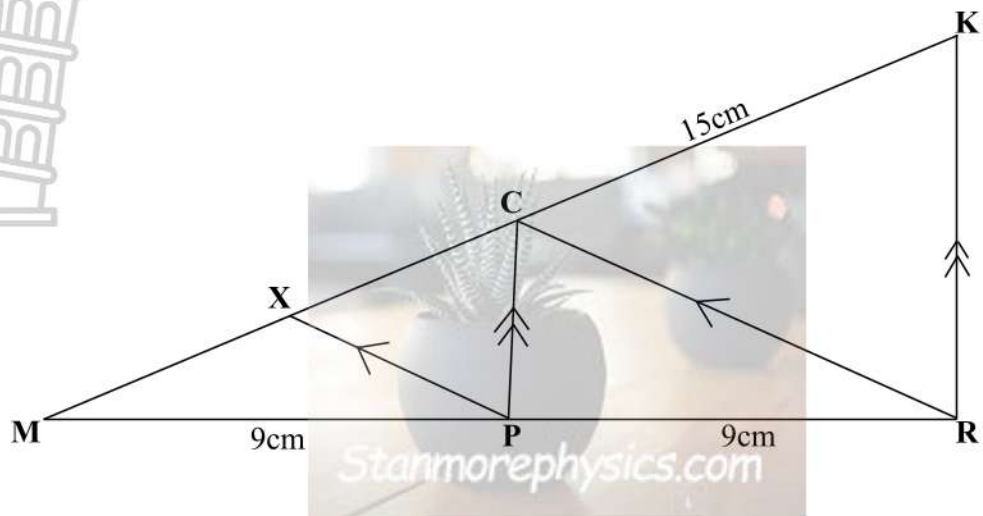
7.1.2 Calculate the values of  $y$  and  $z$ . (4)

7.2 Given  $\triangle ABC$ , where  $AM = MB$  and  $AN = NC$ .



Prove the theorem which states that  $MN = \frac{1}{2} BC$  (5)

7.3 In the diagram below  $KR \parallel CP$ ,  $PX \parallel RC$ ,  $MP = PR = 9\text{cm}$  and  $CK = 15\text{cm}$ .



7.3.1 Prove that  $MX = \frac{15}{2}\text{cm}$  (3)

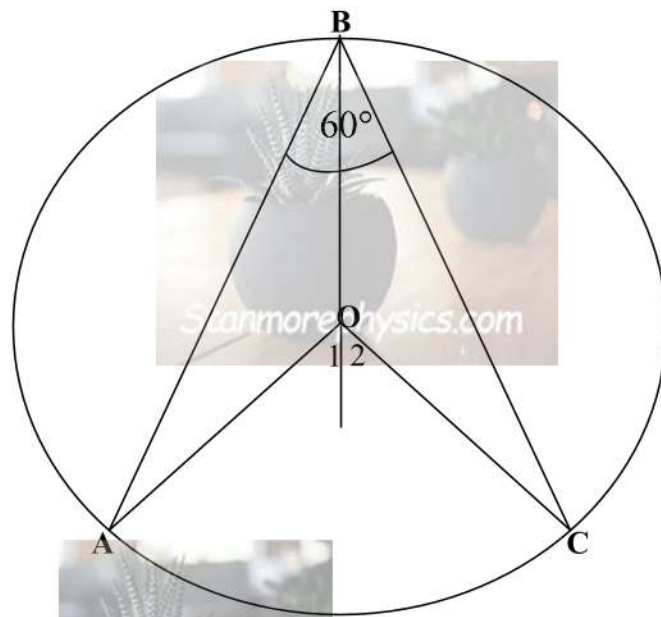
7.3.2 Calculate KR if  $KR = \frac{16}{5}MX$  (2)

7.3.3 Hence, prove that  $\hat{MRK} = 90^\circ$  (2)

[20]

**QUESTION 8**

In the diagram below, OB bisects  $\hat{A}BC$ . O is the centre of the circle and  $\hat{A}BC = 60^\circ$ .



- 8.1 Determine the size of  $\hat{A}BO$ . (1)
- 8.2 Calculate the size of  $\hat{O}_1$ . (3)
- 8.3 Hence, prove that  $\triangle OAB \equiv \triangle OCB$ . (3)

[7]

**QUESTION 9**

A globe of the world, spherical in shape, is placed in a geography classroom. The globe has a radius of 21 cm.

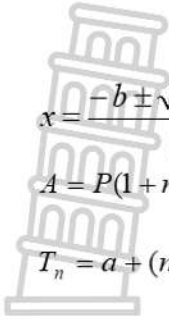
- 9.1 Calculate the volume of the globe, correct to ONE decimal place. (2)
- 9.2 Determine the area of the globe, correct to ONE decimal place. (2)
- 9.3 If the radius is doubled, what would be the ratio of the volume of the original sphere to the volume of the new sphere? (1)



[5]

**TOTAL MARKS: 100**

**INFORMATION SHEET: MATHEMATICS**



$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

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

$$A = P(1 - ni)^n$$

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

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

$$T_n = a + (n - 1)d$$

$$S_n = \frac{n}{2}[2a + (n - 1)d]$$

$$T_n = ar^{n-1}$$

$$S_n = \frac{a(r^n - 1)}{r - 1}; r \neq 1$$

$$S_\infty = \frac{a}{1 - r}; -1 < r < 1$$

$$F = \frac{x[(1 + i)^n - 1]}{i}$$

$$P = \frac{x[1 - (1 + i)^{-n}]}{i}$$

$$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$$

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} \quad M\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$$

$$y = mx + c$$

$$y - y_1 = m(x - x_1)$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

$$m = \tan \theta$$

$$(x - a)^2 + (y - b)^2 = r^2$$

In  $\Delta ABC$ :

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$a^2 = b^2 + c^2 - 2bc \cdot \cos A$$

$$\text{area } \Delta ABC = \frac{1}{2} ab \cdot \sin C$$

$$\sin(\alpha + \beta) = \sin \alpha \cos \beta + \cos \alpha \sin \beta$$

$$\sin(\alpha - \beta) = \sin \alpha \cos \beta - \cos \alpha \sin \beta$$

$$\cos(\alpha + \beta) = \cos \alpha \cos \beta - \sin \alpha \sin \beta$$

$$\cos(\alpha - \beta) = \cos \alpha \cos \beta + \sin \alpha \sin \beta$$

$$\cos 2\alpha = \begin{cases} \cos^2 \alpha - \sin^2 \alpha \\ 1 - 2 \sin^2 \alpha \\ 2 \cos^2 \alpha - 1 \end{cases}$$

$$\sin 2\alpha = 2 \sin \alpha \cdot \cos \alpha$$

$$\bar{x} = \frac{\sum x}{n}$$

$$\sigma^2 = \frac{\sum_{i=1}^n (x_i - \bar{x})^2}{n}$$

$$P(A) = \frac{n(A)}{n(S)}$$

$$P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$$

$$\hat{y} = a + bx$$

$$b = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sum (x - \bar{x})^2}$$



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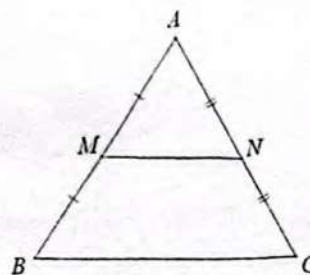
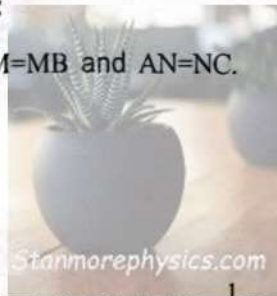
TO: DIRECTOR: CURRICULUM GRADES 10 – 12  
DISTRICT DIRECTORS  
DISTRICT HEADS OF CURRICULUM GRADES: 10 – 12  
DISTRICT HEADS OF EXAMINATIONS AND ASSESSMENT  
DISTRICT HEADS OF CIRCUIT MANAGEMENT  
CIRCUIT MANAGEMENT  
MATHEMATICS SUBJECT ADVISORS  
PRINCIPALS OF SECONDARY SCHOOLS

**ADDENDUM TO THE PROVINCIAL COMMON EXAMINATION FOR GRADE 10  
MATHEMATICS PAPER 2 NOVEMBER 2025**

Please note that question 7.2 from this question paper has to be removed and replaced as shown below:

**Remove question 7.2:**

Given  $\triangle ABC$ , where  $AM=MB$  and  $AN=NC$ .

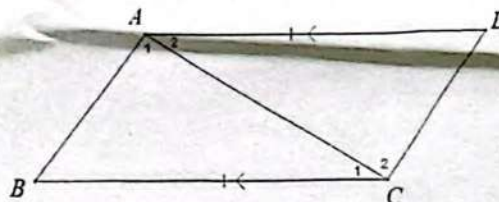


(5)

Prove the theorem which states that  $MN = \frac{1}{2} BC$

**Replace question 7.2 with:**

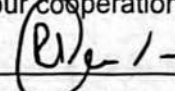
Given quadrilateral ABCD as shown below, with  $AD=BC$  and  $AD \parallel BC$ . Prove that ABCD is a parallelogram.



(5)

**PLEASE NOTE: THIS QUESTION MUST BE ANSWERED ON PAGE 16 UNDER ADDITIONAL SPACE**

Your cooperation in this regard is highly appreciated.

  
DR. R.C. PENNISTON  
CHIEF DIRECTOR EXAMINATIONS, ASSESSMENT  
AND QUALITY ASSURANCE

04.11.2025

DATE



**KWAZULU-NATAL PROVINCE**

**EDUCATION**  
REPUBLIC OF SOUTH AFRICA

**NATIONAL  
SENIOR CERTIFICATE**

**GRADE 10**

**MATHEMATICS P2**

**NOVEMBER 2025**

**MARKING GUIDELINE**

**MARKS: 100**


**This marking guideline consists of 10 pages.**

QUESTION 1			
1.1	$x = 2083$	A✓ answer	(1)
1.2	$\text{mean} = \frac{23718}{9}$ $\text{mean} = 2635,33$	<b>ANSWER ONLY: FULL MARKS</b> <b>PENALISE HERE FOR ROUNDING</b> A✓✓ answer	(2)
1.3	Mpumalanga	ALSO ACCEPT 1725 CA✓ answer	(1)
1.4	$\text{IQR} = Q_3 - Q_1$ $\text{IQR} = 4667,5 - 1332$ $= 3335,50$	CA✓ $Q_3$ and $Q_1$ CA✓ correct subst CA✓ answer	(3)
1.5	Number of schools = $23718(0,68\%)$ $= 161,28$ $\approx 162$ schools  <b>ALSO ACCEPT</b> Number of schools = $23718(100,68\%)$ $= 23879,28$ $\approx 23880$ schools	A✓  A✓  A✓  A✓	(2)
			<b>[9]</b>

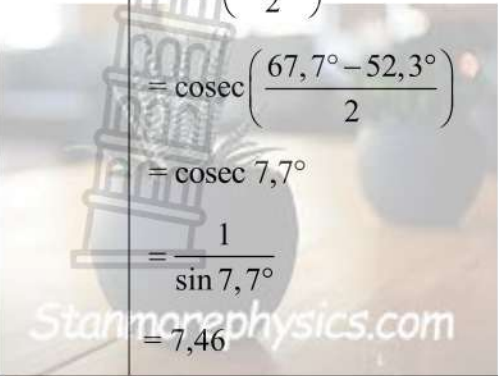


QUESTION 2			
2.1	60 learners	A ✓ answer	(1)
2.2	$\bar{x} = \frac{(25.6)+(35.11)+(45.9)+(55.7)+(65.8)+(75.13)+(85.6)}{60}$ $\bar{x} = \frac{3330}{60}$ $\bar{x} = 55,50$ <b>ANSWER ONLY: FULL MARKS</b> Stanmorephysics.com <b>OR</b> $\bar{x} = \frac{3330}{60}$ $\bar{x} = 55,50$	A ✓ correct midpts CA✓ 60 CA✓ 3330 CA✓ answer  A ✓✓ 3330 CA✓ 60 CA✓ answer	(4)

2.3	$\frac{33}{60} \times 100$ $= 55\%$	A ✓ 33 CA ✓ answer	(2)
			[7]
<b>QUESTION 3</b>			
3.1.1	$m_{SF} = \frac{y_2 - y_1}{x_2 - x_1}$ $m_{SF} = \frac{0+1}{3-0}$ $m_{SF} = \frac{1}{3}$ <p style="text-align: center;"><b>ANSWER ONLY: FULL MARKS</b></p>	A ✓ subst into correct formula CA ✓ answer	(2)
3.1.2	$m_{QH} = m_{SF} = \frac{1}{3}$ $y = mx + c$ $4 = \frac{1}{3}(4) + c$ $c = \frac{8}{3}$ $y = \frac{1}{3}x + \frac{8}{3}$ <p><b>OR</b></p> $m_{QH} = m_{SF} = \frac{1}{3}$ $y - y_1 = m(x - x_1)$ $y - 4 = \frac{1}{3}(x - 4)$ $y = \frac{1}{3}x + \frac{8}{3}$	CA ✓ $m_{QH} = m_{SF}$  CA ✓ correct subst  CA ✓ answer  CA ✓ $m_{QH} = m_{SF}$  CA ✓ correct subst  CA ✓ answer	(3)
3.1.3	$2 = \frac{1}{3}k + \frac{8}{3}$ $\frac{1}{3}k = -\frac{2}{3}$ $k = -2$ <p><b>OR</b></p>	CA ✓ correct subst  CA ✓ answer $k < 0$	

GRADE10  
Marking Guideline

	$\frac{4-2}{4-k} = \frac{1}{3}$ $\frac{2}{4-k} = \frac{1}{3}$ $k = -2$	A✓ correct subst  CA✓ answer $k < 0$	(2)
3.1.4	$HF = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$ $HF = \sqrt{(4-3)^2 + (4-0)^2}$ $HF = \sqrt{17} / 4,12$	A✓ correct subst CA✓ answer	(2)
3.1.5	$M\left(\frac{x_1+x_2}{2}; \frac{y_1+y_2}{2}\right)$ $M\left(\frac{4+0}{2}; \frac{4-1}{2}\right)$ $M\left(2; \frac{3}{2}\right)$ 	A✓ correct subst CA✓ 2 CA✓ $\frac{3}{2}$	(3)
3.2	$m_{AB} = -\frac{1}{2}$ $\frac{-1-2}{p+5} = -\frac{1}{2}$ $-6 = -p-5$ $p = 1$	A✓ $m_{AB} = -\frac{1}{2}$ CA✓ equate to $M_{AB}$  CA✓ answer	(3)
			[15]
<b>QUESTION 4</b>			
4.1.1	$\frac{\sin x}{2}$ $= \frac{\sin 67,7^\circ}{2}$ $= 0,46$	A✓ correct subst CA✓ answer	(2)
4.1.2	$\cos(3y)$ $= \cos(3(52,3^\circ))$ $= -0,92$	A✓ correct subst CA✓ answer	(2)

GRADE10  
Marking Guideline

4.1.3		A✓ correct subst	
4.2.1	$3 + \cos 4\theta = 3,706$ $\cos 4\theta = 0,706$ $4\theta = 45,08961075^\circ$ $\theta = 11,3^\circ$ 	A✓ $\cos 4\theta = 0,706$ CA✓ $4\theta = 45,08961075^\circ$ CA✓ answer	(2)
4.2.2	$4 \tan \theta = 7 - 4 \tan \theta$ $8 \tan \theta = 7$ $\tan \theta = \frac{7}{8}$ $\theta = 41,2^\circ$ 	A✓ $8 \tan \theta = 7$ CA✓ $\tan \theta = \frac{7}{8}$ CA✓ answer	(3)
4.3.1	Third quadrant	A✓	(1)
4.3.2	Fourth quadrant	A✓	(1)
			<b>[14]</b>

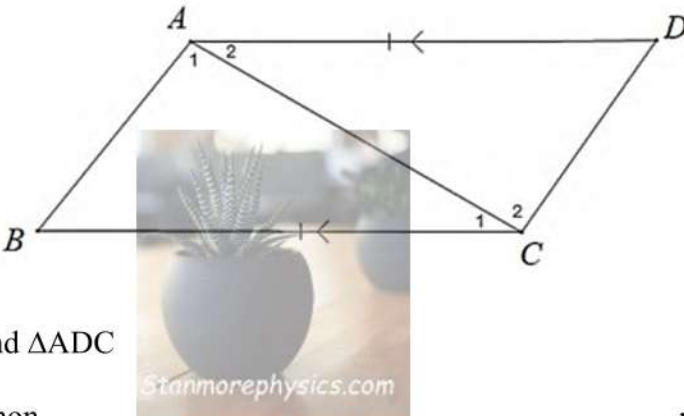
**QUESTION 5**

5.1.1	$x^2 + y^2 = r^2 \quad \text{Pythagoras}$ $(-12)^2 + (5)^2 = OP^2$ $OP = 13 \text{ units}$ <p style="text-align: center;"><b>ANSWER ONLY: FULL MARKS</b></p>	A✓ correct subst  CA✓ answer	(2)
5.1.2	a) $\tan \theta = -\frac{5}{12}$	A✓	(1)

	<p>b) <math>(\sin \theta + \cos \theta)^2</math></p> $= \left( \frac{5}{13} + \left( \frac{-12}{13} \right) \right)^2$ $= \left( -\frac{7}{13} \right)^2$ $= \frac{49}{169}$ <p><b>OR</b></p> $= \sin^2 \theta + 2 \sin \theta \cos \theta + \cos^2 \theta$ $= \left( \frac{5}{13} \right)^2 + 2 \left( \frac{5}{13} \right) \left( \frac{-12}{13} \right) + \left( \frac{-12}{13} \right)^2$ $= \frac{25}{169} + \frac{-120}{169} + \frac{144}{169}$ $= \frac{49}{169}$	<p>CA✓✓ correct subst</p> <p>CA✓ answer</p> <p>A✓ simplification CA✓ correct subst</p> <p>CA✓ answer</p>	<p>(3)</p>
<p>5.2.1</p>	<p><math>\hat{S}_1 = 90^\circ</math> angles on str line</p> $\cos 70^\circ = \frac{WS}{40}$ <p>WS = 13,68 units</p>	<p>A✓ <math>\hat{S}_1 = 90^\circ</math></p> <p>A✓ correct subst into trig ratio</p> <p>CA✓ answer</p>	<p>(3)</p>
<p>5.2.2</p>	$\cos \hat{W} = \frac{WM}{WT}$ $\cos 70^\circ = \frac{40}{WT}$ <p>WT=116,952176</p> <p>ST=116,952176 – 13,68</p> <p>ST = 103,27 units</p> <p><b>OR</b></p> <p><math>\hat{T} = 20^\circ</math> sum of <math>\Delta</math></p> $\sin 20^\circ = \frac{40}{WT}$ <p>WT = 116,952176</p> <p>ST=116,952176 – 13,68</p> <p>ST = 103,27 units</p>	<p>A✓ trig ratio</p> <p>A✓ correct subst CA✓</p> <p>WT=116,952176</p> <p>CA✓ difference CA✓ answer</p> <p>A✓ S/R CA✓ correct subst into trig ratio CA✓</p> <p>WT=116,952176</p> <p>CA✓ difference CA✓ answer</p>	
			<p>[14]</p>

**QUESTION 6**

<p>6.1</p>		<p><math>g(x)</math> A✓ shape A✓ Tpt</p> <p><math>f(x)</math> A✓ shape A✓ x int</p>	<p>(4)</p>
<p>6.2</p>	<p><math>360^\circ</math></p>	<p>A✓</p>	<p>(1)</p>
<p>6.3</p>	<p><math>0 \leq y \leq 2</math> or <math>y \in [0; 2]</math></p>	<p>CA✓ <math>y \geq 0</math> CA✓ <math>y \leq 2</math></p>	<p>(2)</p>
<p>6.4</p>	<p><math>g(x) - f(x) = 3</math> <math>x = 270^\circ</math></p>	<p>A✓ CA✓</p>	<p>(2)</p>
<p><b>ANSWER ONLY: FULL MARKS</b></p>			<p>[9]</p>

QUESTION 7				
7.1.1	$2w + 10 = 70^\circ$ $w = 30^\circ$ $5x + 45^\circ + 70^\circ = 180^\circ$ $x = 13^\circ$	corr $\angle$ s AB//EG  sum $\angle$ s in $\Delta$	A✓ S/R A✓ answer  A✓ S/R A✓ answer	(4)
7.1.2	$y + 70^\circ + 45^\circ = 180^\circ$ $y = 65^\circ$ $z = 70^\circ$	sum $\angle$ s in $\Delta$  opp $\angle$ s of parm	A✓ S/R A✓ answer ✓S✓ R	(4)
7.2	<div style="text-align: center;">  </div> <p>In <math>\Delta ABC</math> and <math>\Delta ADC</math></p> <p>AC is common ✓S</p> <p><math>\hat{C}_1 = \hat{A}_2</math> alt <math>\angle</math>s AD//BC ✓S/R</p> <p>BC = AD given ✓S</p> <p><math>\therefore \Delta ABC \equiv \Delta ADC</math> SAS ✓S/R</p> <p><math>\hat{A}_1 = \hat{C}_2</math> congruent <math>\Delta</math>s ✓S</p> <p><math>\therefore AB \parallel DC</math> alt <math>\angle</math>s equal</p> <p><math>\therefore ABCD</math> is a parm</p> <p>2 pairs of opposite sides parallel</p> <p><b>ALTERNATIVELY</b></p> <p>AD = BC given ✓S</p> <p>AD // BC given ✓S</p> <p><math>\therefore ABCD</math> is a parm ✓S</p> <p>One pair of opposite sides equal and parallel ✓✓R</p>			(5)

GRADE10  
Marking Guideline


7.3.1	$MC = KC$ line through midpt // to 2nd side $MC = 15$ $MX = CX$ Line through midpt // 2nd side $MC = MX + CX$ $2MX = 15$ $MX = \frac{15}{2}$	A✓ S/R A✓ 15 A✓ S/R	(3)
7.3.2	$KR = \frac{16}{5}$ $KR = \frac{16}{5} \times \frac{15}{2}$ $KR = 24$	A✓ correct subst A✓ answer	(2)
7.3.3	$MK^2 = 30^2$ $MK^2 = 900$ $MR^2 + KR^2 = 18^2 + 24^2$ $MR^2 + KR^2 = 900$ $\hat{MRK} = 90^\circ$	A✓ CA✓ converse Theorem of Pythagoras	(2)
			<b>[20]</b>

**QUESTION 8**

8.1	$\hat{A}BO = 30^\circ$	OB bisects $\hat{A}BC$	A✓ S	(1)
8.2	$\hat{A} = \hat{A}BO$ $\hat{A} = 30^\circ$ $\hat{O}_1 = \hat{A}BO + \hat{A}$ $\hat{O}_1 = 60^\circ$ <b>OR</b> $\hat{A} = \hat{A}BO$ $\hat{A}OB = 120^\circ$ $\therefore \hat{O}_1 = 60^\circ$	$\angle$ s opp equal sides Ext $\angle$ s of $\Delta$ $\angle$ s opp equal sides sum of $\Delta$ $\angle$ s on a str line	A✓ S/R A✓ $\hat{A} = 30^\circ$ A✓ answer A✓ S/R A✓ S/R A✓ S/R	(3)

<p>8.3</p>	<p>In <math>\triangle ABO</math> and <math>\triangle CBO</math>                  1) <math>BO</math> is common                  2) <math>\hat{A}BO = \hat{C}BO = 30^\circ</math> <math>OB</math> bisects <math>\hat{A}BC</math>                  3) <math>\hat{A} = \hat{A}BO = 30^\circ</math> <math>\angle</math>s opp = sides  <math>\hat{C} = \hat{C}BO = 30^\circ</math> <math>\angle</math>s opp = sides  <math>\therefore \hat{A} = \hat{C}</math>  <math>\therefore \hat{A}OB = \hat{C}OB</math> sum of <math>\triangle</math>  <math>\triangle ABO \equiv \triangle CBO</math> SAA</p>	<p><math>A\checkmark</math> S/R  <math>A\checkmark</math> S/R  <math>A\checkmark</math> SAA</p>	<p>(3)</p>
			<p>[7]</p>

**QUESTION 9**

<p>9.1</p>	$V = \frac{4}{3} \pi r^3$  $V = \frac{4}{3} \pi (21)^3$ $V = 38792,4 \text{ cm}^3$	<p><math>A\checkmark</math> correct subst  <math>CA\checkmark</math> answer  <b>Provided <math>\pi</math> and <math>r</math> used in the formula</b></p>	<p>(2)</p>
<p>9.2</p>	$A = 4\pi r^2$ $A = 4\pi(21)^2$ $A = 5541,8 \text{ cm}^2$	<p><math>A\checkmark</math> correct subst  <math>CA\checkmark</math> answer  <b>Provided <math>\pi</math> and <math>r</math> used in the formula</b></p>	<p>(2)</p>
<p>9.3</p>	<p>1:8 or <math>\frac{1}{8}</math></p>	<p><math>CA\checkmark</math> answer</p>	<p>(1)</p>
			<p>[5]</p>

**TOTAL MARKS: 100**