



NAME OF LEARNER:

MATHEMATICS CLASS TEST: 29 August September 2025

GRADE 9

Stanmorephysics.com

MARKS: 5

DURATION: 20 MINUTES

Stanmorephysics.com

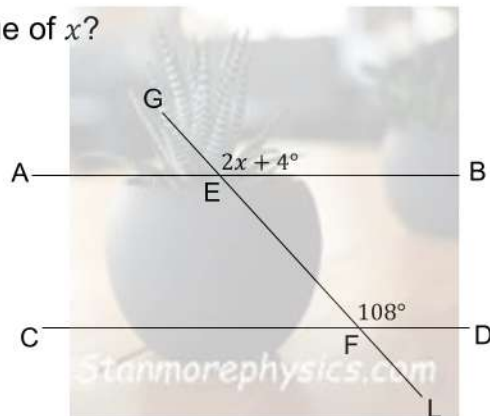
This test consists of 8 pages, including the cover page.

Instructions and information for the learner	
1.	Read the questions carefully.
2.	Answer ALL the questions.
3.	Circle only the letter for the correct answer , e.g. If the correct answer in 1. is D, you should only circle (D)
4.	Show how you arrived at the answer in the space provided. N.B. No mark will be awarded without any calculation
5.	There is only one correct answer in each question.
6.	This question paper consists of 5 questions.
7.	Diagrams are NOT drawn to scale.



1. What is the value of x ?

(1)



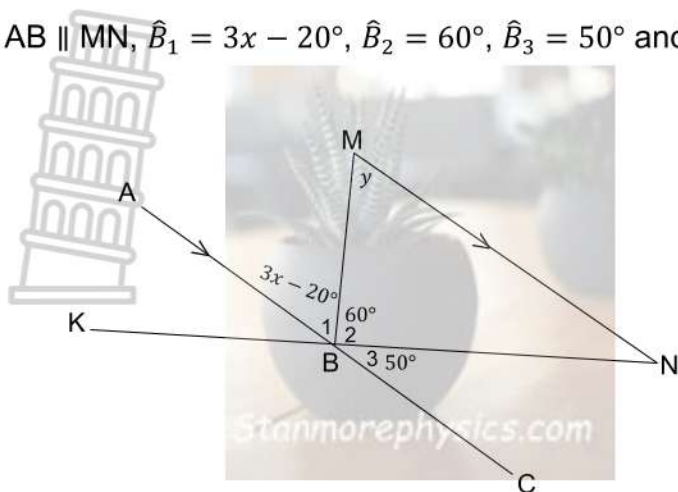
A 108°

B 104°

C 54°

D 52°

2. $AB \parallel MN$, $\hat{B}_1 = 3x - 20^\circ$, $\hat{B}_2 = 60^\circ$, $\hat{B}_3 = 50^\circ$ and $\hat{M} = y$.



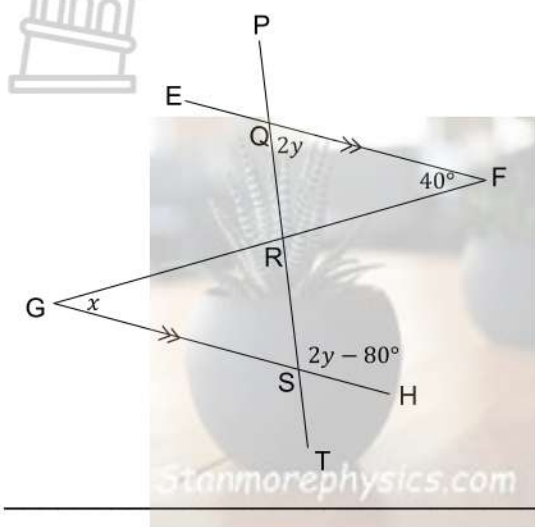
What is the value of y ?

(1)

- A 70°
- B 60°
- C 50°
- D 30°

3. In the figure below, $EF \parallel GH$. What is the value of y ?

(1)

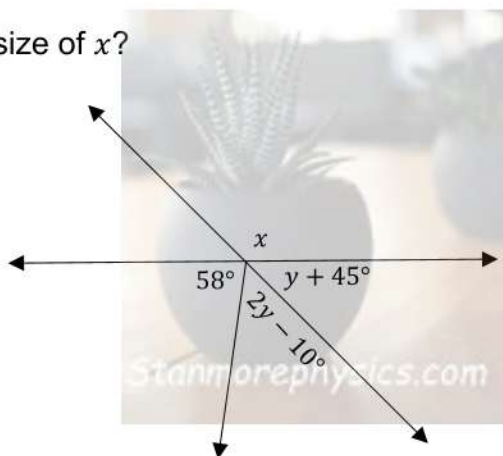


- A 40°
- B 50°
- C 55°

D 65°

4. What is the size of x ?

(1)



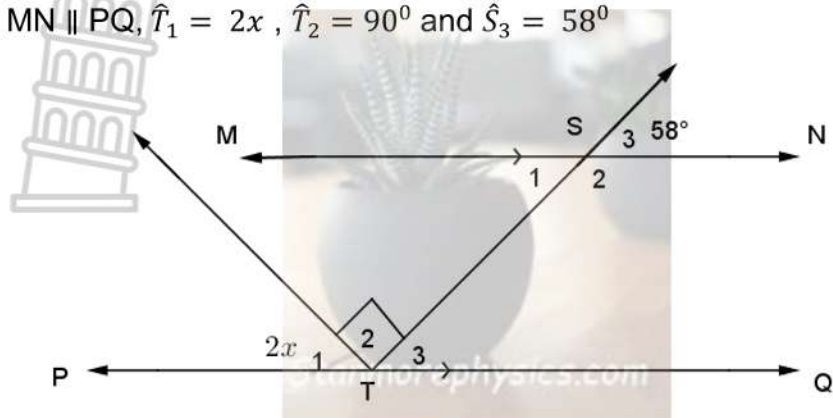
A 113°

B 106°

C 87°

D 58°

5. $MN \parallel PQ$, $\hat{T}_1 = 2x$, $\hat{T}_2 = 90^\circ$ and $\hat{S}_3 = 58^\circ$ (1)



Calculate the value of $\hat{T}_1$.

- A 16°
B 29°
C 32°

D 45°



END





MARKING GUIDELINE

MATHEMATICS CLASS TEST: 29 AUGUST 2025

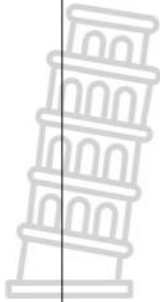
GRADE 9



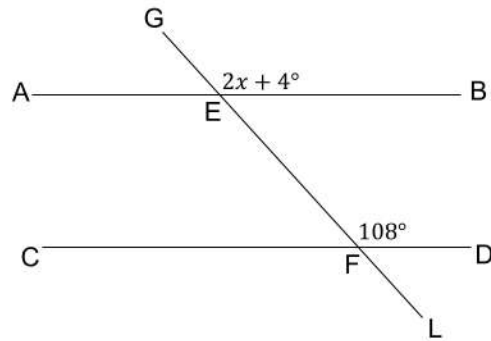
MARKS: 5



1.



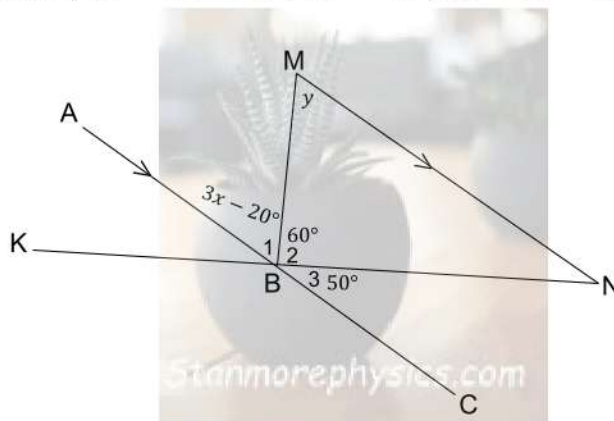
What is the value of x if $AB \parallel CD$?



Options	Possible Answers	Errors and Misconceptions
A	108°	The learner assumed the value is 108°
B	104°	The learner equated $2x + 4^\circ$ to 108° and did not apply the multiplicative inverse to solve for x $2x + 4^\circ = 108^\circ$ $x = 108^\circ - 4^\circ$ $x = 104^\circ$
C	54°	The learner incorrectly assumed that $2x = 108^\circ$
D	52°	✓ correct response $2x + 4^\circ = 108^\circ$ [corresp $\angle$ s; $AB \parallel CD$] $2x = 104^\circ$ $x = 52^\circ$

2.

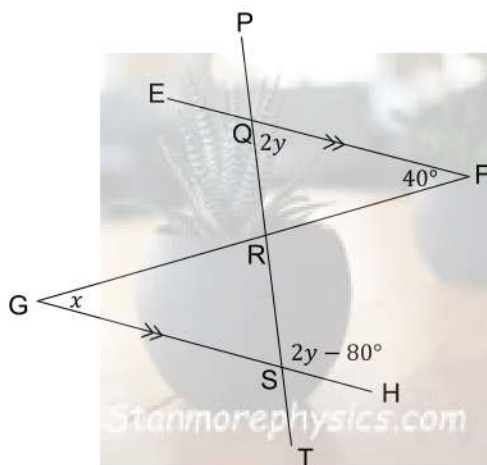
$AB \parallel MN$, $\hat{B}_1 = 3x - 20^\circ$, $\hat{B}_2 = 60^\circ$, $\hat{B}_3 = 50^\circ$ and $\hat{M} = y$.



What is the value of y ?

Options	Possible Answers	Errors and Misconceptions
A	70°	✓ correct response $3x - 20^\circ + 60^\circ + 50^\circ = 180^\circ$ [$\angle$ s on a str line] $x = 30^\circ$ $\hat{B}_1 = 3(30^\circ) - 20^\circ = 70^\circ$ $y = \hat{B}_1 = 70^\circ$ [alt. $\angle$ s; $AB \parallel MN$]
B	60°	The learner simply took the value of y to be 60° from the angle $\hat{B}_2 = 60^\circ$, thinking that the triangle is isosceles
C	50°	$\hat{B}_3 = \hat{A}BK = 50^\circ$, [Vert. opp. $\angle$ s] Then, the learner confused y and $\hat{A}BK$ to be alternate angles
D	30°	The learner equated $3x - 20^\circ$ to 110° and did not apply the additive property correctly $3x - 20^\circ = 60^\circ + 50$ $3x - 20^\circ = 110^\circ$ $3x = 110^\circ - 20^\circ$ $3x = 90^\circ$ $x = 30^\circ$

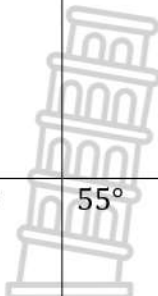
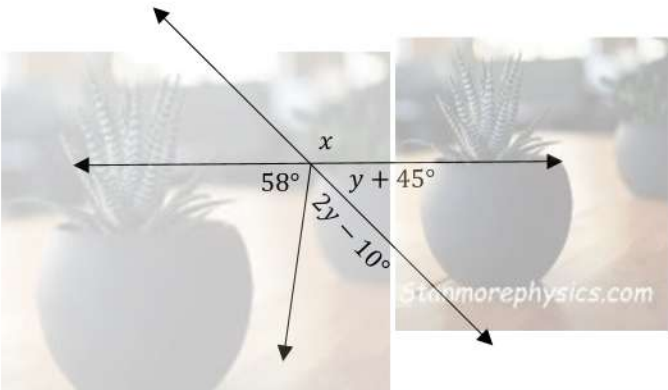
3. In the figure below, $EF \parallel GH$. What is the value of y ?



Options	Possible Answers	Errors and Misconceptions
A	40°	The learner confused the given angle 40° with the value of y . The learner equated $2y$ to 80° $2y = 80^\circ$ $y = 40^\circ$

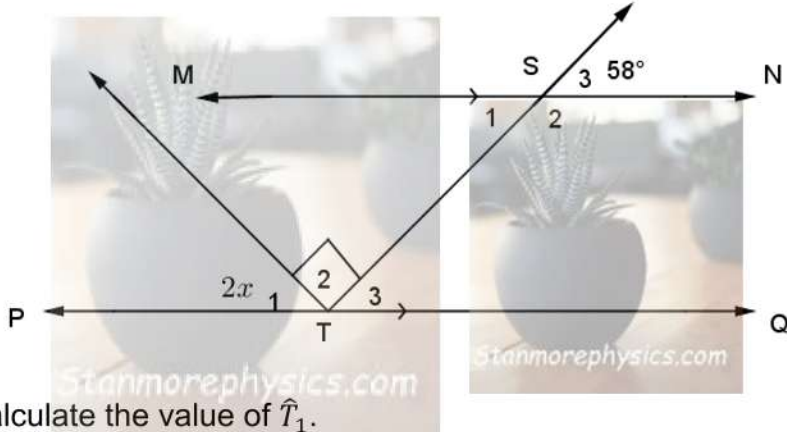
MATHEMATICS MARKING GUIDELINE

29 August 2025
Grade 9

B	50°	 The learner incorrectly equated $2y - 80^\circ = 180^\circ$, thinking it is angles on a straight line and did not correctly apply the additive inverse $2y - 80^\circ = 180^\circ$ $2y = 100^\circ$ $y = 50^\circ$
C	55°	The learner incorrectly took all the angles with values to solve for y. $4y + 40^\circ - 80^\circ = 180^\circ$ $4y = 220^\circ$ $y = 55^\circ$
D	65°	✓ correct response $2y + 2y - 80^\circ = 180^\circ \quad [\text{co-int } \angle s; EF \parallel GH]$ $4y = 260^\circ$ $y = 65^\circ$
4.	What is the size of x ?	
Option	Possible Answer	Errors and Misconceptions
A	113°	The learner equated $y + 45^\circ$ to $2y - 10^\circ$ thinking that the line bisects the angle. The learner then added the value of y without substituting for y in $2y - 10^\circ$ to 58° $y + 45^\circ = 2y - 10^\circ$ $\therefore x = 55^\circ + 58^\circ = 113^\circ$
B	106°	✓ Correct response $x + y + 45^\circ = 180^\circ \quad [\angle s \text{ on str line}]$ $x = 135^\circ - y$ $x = 58^\circ + 2y - 10^\circ \quad [\text{vert opp } \angle s]$ $135^\circ - y = 58^\circ + 2y - 10^\circ$ $y = 29^\circ$

MATHEMATICS MARKING GUIDELINE

29 August 2025
Grade 9

		$x = 135^\circ - 29^\circ = 106^\circ$
C	87°	The learner calculated the value of y and added the answer to 58° $y + 45^\circ + 2y - 10^\circ + 58^\circ = 180$ [$\angle s$ on str line] $y = 29^\circ$ $x = 29^\circ + 58^\circ = 87^\circ$
D	58°	The learner incorrectly concluded that x is vertically opposite to the angle marked as 58°
	$MN \parallel PQ, \hat{T}_1 = 2x, \hat{T}_2 = 90^\circ$ and $\hat{S}_3 = 58^\circ$  Calculate the value of $\hat{T}_1$.	
Option	Possible Answer	Errors and Misconceptions
A	16°	The learner solved for x and did not substitute. $2x + 90^\circ + 58^\circ = 180^\circ$ $2x = 32^\circ$ $x = 16^\circ$
B	29°	Since $\hat{T}_1$ and $\hat{T}_3$ are on either side of $\hat{T}_2$, learner assumed that $\hat{T}_1 = \hat{T}_3$ and since $\hat{T}_3 = 58^\circ$ $\therefore 2x = 58^\circ, \Rightarrow x = 29^\circ$
C	32°	✓ Correct response $2x + 90^\circ + 58^\circ = 180^\circ$ $2x = 32^\circ$ $\hat{T}_1 = 32^\circ$

MATHEMATICS MARKING GUIDELINE

29 August 2025
Grade 9

D	45°	$2x = 90^\circ$ $x = 45^\circ$

