



**NAME OF LEARNER:**

MATHEMATICS CLASS TEST: 29 August 2025

GRADE 8

**MARKS: 5**

**DURATION: 20 MINUTES**

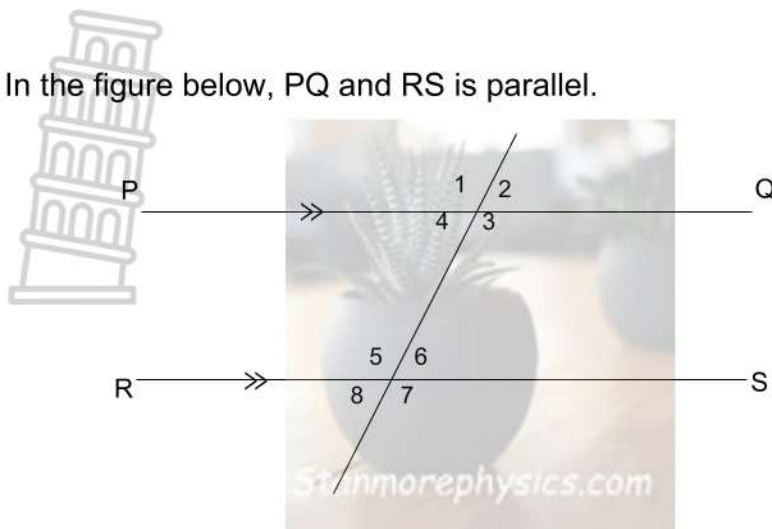
This test consists of 7 pages, including the cover page.

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



1. In the figure below, PQ and RS is parallel.

(1)



Which pair of angles has a sum of  $180^\circ$ ?

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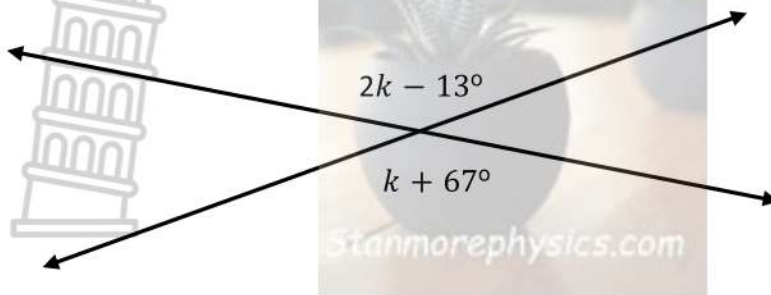
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- A  $\angle 5$  and  $\angle 7$
- B  $\angle 3$  and  $\angle 6$
- C  $\angle 1$  and  $\angle 5$
- D  $\angle 4$  and  $\angle 6$

2. Study the diagram below showing intersecting lines.

(1)



Calculate the value of  $k$ ?

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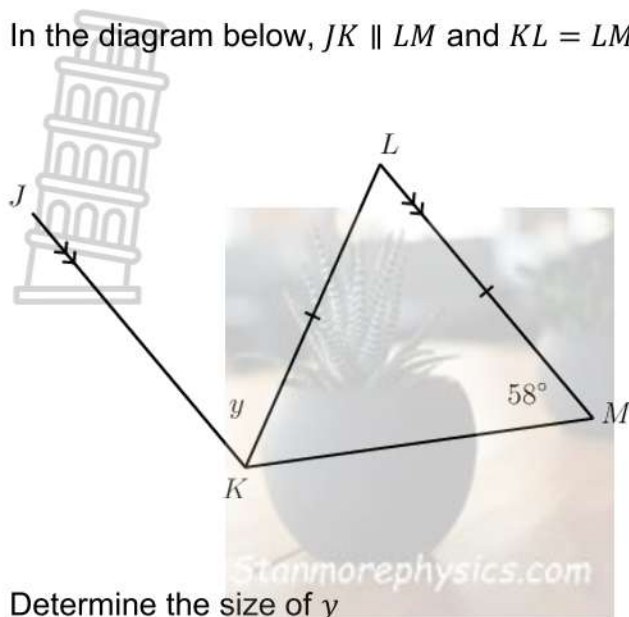
A  $113^\circ$

B  $102^\circ$

C  $80^\circ$

D  $67^\circ$

3. In the diagram below,  $JK \parallel LM$  and  $KL = LM$ .



(1)

Determine the size of  $y$

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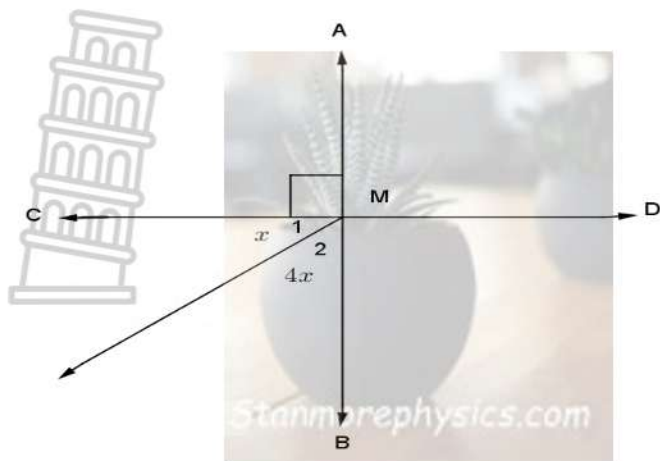
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- A  $74^\circ$
- B  $64^\circ$
- C  $61^\circ$
- D  $58^\circ$

4. In the diagram below,  $AB \perp CD$ ,  $\hat{M}_1 = x$  and  $\hat{M}_2 = 4x$

(1)



Calculate the value of angle  $\hat{M}_2$

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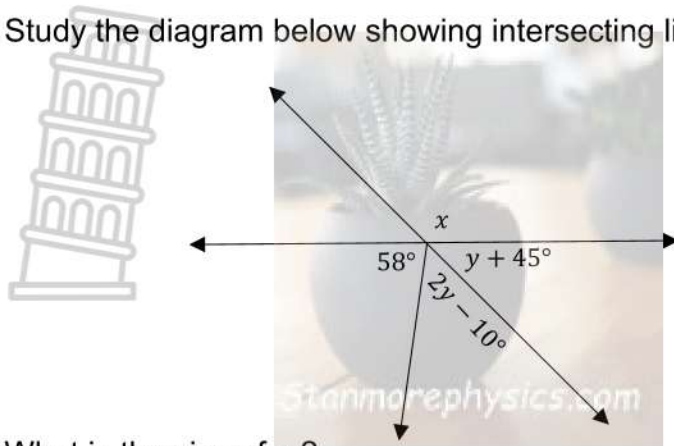
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- A  $90^\circ$
- B  $72^\circ$
- C  $23^\circ$
- D  $18^\circ$

5. Study the diagram below showing intersecting lines.

(1)



What is the size of  $y$  ?

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- A  $55^\circ$
- B  $45^\circ$
- C  $34^\circ$
- D  $29^\circ$



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**MARKING GUIDELINE**

MATHEMATICS CLASS TEST: 29 August 2025

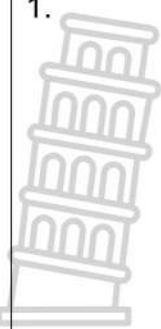
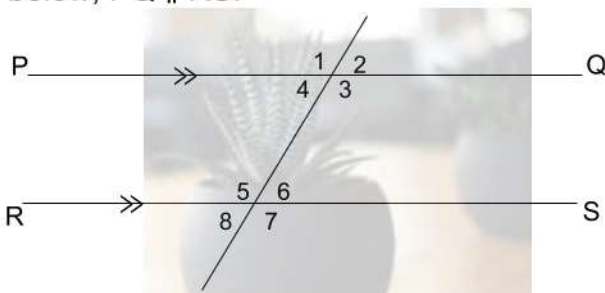
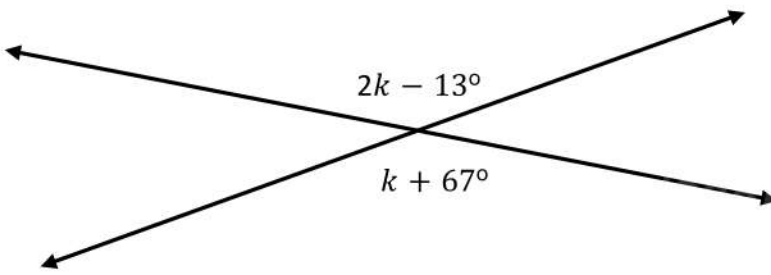
GRADE 8

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**MARKS: 5**



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|                                                                                   |                                                                                      |                                                                                        |  |
|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|--|
| 1.                                                                                | In the figure below, $PQ \parallel RS$ .                                             |                                                                                        |  |
|  |    |                                                                                        |  |
|                                                                                   | Which pair of angles has a sum of $180^\circ$ ?                                      |                                                                                        |  |
| Options                                                                           | Possible Answers                                                                     | Errors and Misconceptions                                                              |  |
| A                                                                                 | $\angle 5$ and $\angle 7$                                                            | The learner confuses vertically opposite angles with co-interior angles                |  |
| B                                                                                 | $\angle 3$ and $\angle 6$                                                            | ✓ Correct response                                                                     |  |
| C                                                                                 | $\angle 1$ and $\angle 5$                                                            | The learner confuses corresponding angles with co-interior angles                      |  |
| D                                                                                 | $\angle 4$ and $\angle 6$                                                            | The learner confuses alternate angles with co-interior angles                          |  |
| 2.                                                                                | Study the diagram below showing intersecting lines.                                  |                                                                                        |  |
|                                                                                   |  |                                                                                        |  |
|                                                                                   | Calculate the value of $k$ ?                                                         |                                                                                        |  |
| Option                                                                            | Possible Answers                                                                     | Errors and Misconceptions                                                              |  |
| A                                                                                 | $113^\circ$                                                                          | Equated $k + 67^\circ$ to $180^\circ$<br>$k + 67^\circ = 180^\circ$<br>$k = 113^\circ$ |  |
| B                                                                                 | $102^\circ$                                                                          | The learner used the revolution angle and equated the angles to $360^\circ$ .          |  |

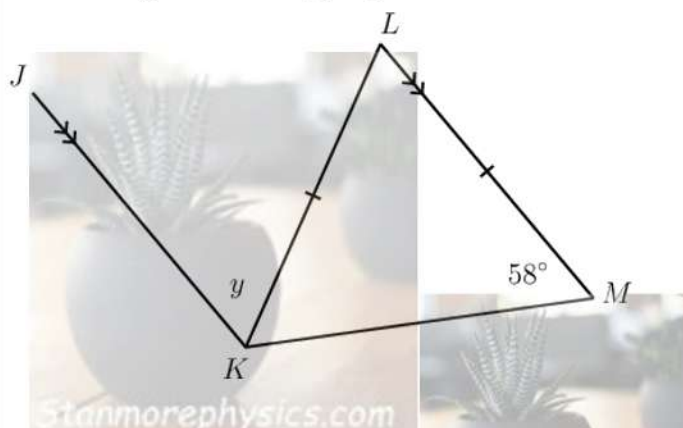
**MARKING GUIDELINE**

29 August 2025  
Grade 8

|   |            |                                                                                                                                                     |
|---|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
|   |            | $k + 67^\circ + 2k - 13^\circ = 360^\circ$<br>$3k + 120^\circ = 360^\circ$<br>$3k = 360^\circ - 120^\circ = 240^\circ$<br>$\therefore k = 80^\circ$ |
| C | $80^\circ$ | ✓ Correct response<br>$k + 67^\circ = 2k - 13^\circ$ Vert. opp. $\angle s$<br>$k = 80^\circ$                                                        |
| D | $67^\circ$ | Equated $k$ to $67^\circ$                                                                                                                           |

3.

In the diagram below,  $JK \parallel LM$  and  $KL = LM$ .



Determine the size of  $y$

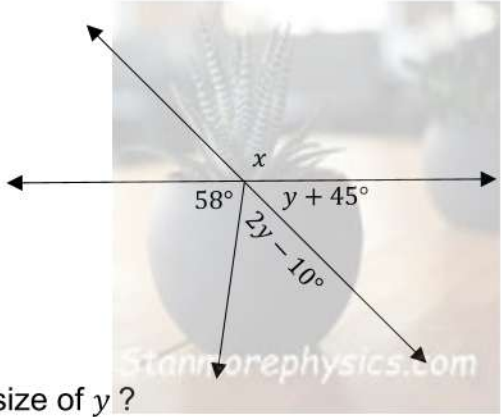
| Option | Possible Answers | Errors and Misconceptions                                                                                                                                                                                      |
|--------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A      | $74^\circ$       | When adding equal angles of isosceles triangle, learner got $106^\circ$ , instead of $116^\circ$ and subtracted from $180^\circ$ to get $74^\circ$                                                             |
| B      | $64^\circ$       | ✓ Correct response<br>$\hat{L} = 180^\circ - 116^\circ = 64^\circ$<br>$y = \hat{L} = 64^\circ$ (Alt $\angle s$ , $JK \parallel LM$ )                                                                           |
| C      | $61^\circ$       | $\hat{K} = 180^\circ - 58^\circ$ $\hat{K}$ and $\hat{M}$ are co-interior angles<br>$\hat{K} = 122^\circ$<br>$y = \frac{122^\circ}{2}$ Learner thought that $KL$ bisects $\hat{K}$<br>$\therefore y = 61^\circ$ |
| D      | $58^\circ$       | Mistaken the position of corresponding angles                                                                                                                                                                  |

4.

In the diagram below,  $AB \perp CD$ ,  $\widehat{M}_1 = x$  and  $\widehat{M}_2 = 4x$

Calculate the value of angle  $\widehat{M}_2$ .

| Option | Possible Answers | Errors and Misconceptions                                                                                                                                                                                                                       |
|--------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A      | $90^\circ$       | Mistaken $M_2$ to be equal to the $90^\circ$                                                                                                                                                                                                    |
| B      | $72^\circ$       | <p>✓ Correct response</p> <p><math>4x + x = 90^\circ</math> Compl. <math>\angle</math>s</p> <p><math>x = 18^\circ</math></p> <p><math>M_2 = 18^\circ \times 4 = 72^\circ</math></p>                                                             |
| C      | $23^\circ$       | <p>Only equated <math>4x</math> to <math>90^\circ</math> to solve for <math>x</math> and rounded off the answer to the nearest degree</p> <p><math>4x = 90^\circ</math></p> <p><math>x = 22,5^\circ</math></p> <p><math>x = 23^\circ</math></p> |
| D      | $18^\circ$       | <p>Calculated the value of <math>x</math> and did not substitute for <math>x</math> into <math>4x</math></p> <p><math>4x + x = 90^\circ</math> Compl. <math>\angle</math>s</p> <p><math>x = 18^\circ</math></p>                                 |

| <p>5.</p>  | <p>Study the diagram below showing intersecting lines.</p>  <p>What is the size of <math>y</math> ?</p> |                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Option                                                                                      | Possible Answer                                                                                                                                                                           | Errors and Misconceptions                                                                                                                                               |
| A                                                                                           | $55^\circ$                                                                                                                                                                                | <p>Equated <math>y + 45^\circ</math> to <math>2y - 10^\circ</math> thinking that the line bisects the angle</p> $y + 45^\circ = 2y - 10^\circ$ $y = 55^\circ$           |
| B                                                                                           | $45^\circ$                                                                                                                                                                                | <p>Equated <math>y</math> to <math>45^\circ</math></p> $y = 45^\circ$                                                                                                   |
| C                                                                                           | $34^\circ$                                                                                                                                                                                | <p>Equated <math>2y - 10^\circ</math> to <math>58^\circ</math></p> $2y - 10^\circ = 58^\circ$ $2y = 58^\circ + 10^\circ = 68^\circ$ $y = 34^\circ$                      |
| D                                                                                           | $29^\circ$                                                                                                                                                                                | <p>✓ Correct response</p> $y + 45^\circ + 2y - 10^\circ + 58^\circ = 180^\circ \dots \text{[Sum of } \angle\text{s on a straight line]}$ $3y = 87^\circ$ $y = 29^\circ$ |