

Marking Guideline
Revision Test (Mock)
TERM 3
2024
Sedibeng West

GRADE 9

MATHEMATICS

MARKS: 50

TIME: 1 hour

This marking guideline consists of 12 pages.

MATHEMATICS

INSTRUCTIONS AND INFORMATION

1. Give full marks for answers only, unless stated otherwise.
2. Accept any alternate correct solutions that are not included in the marking guideline.
3. Underline errors committed by learners and apply Consistent Accuracy (CA).

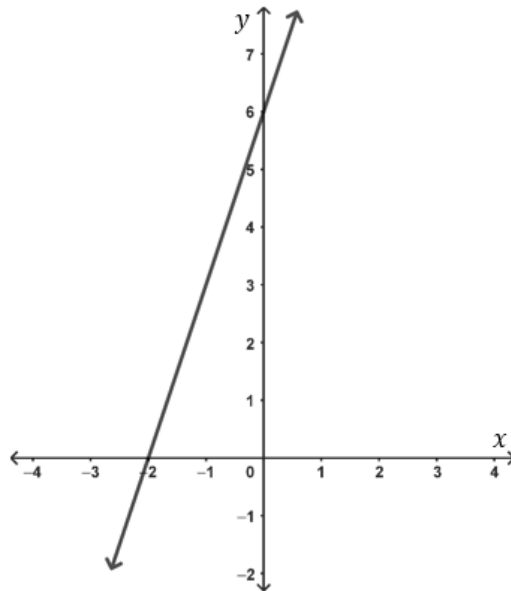
KEYS	
M	Method
CA	Consistent Accuracy
A	Accuracy
S	Statement
SF	Substitution in Formula
R	Reason
S/R	Statement and Reason

QUESTION 1

FOR EACH QUESTION, CHOOSE THE CORRECT LETTER OF THE CORRECT ANSWER.

1.1

The coordinates of the x – intercept and y – intercept of the straight line below is best given by:

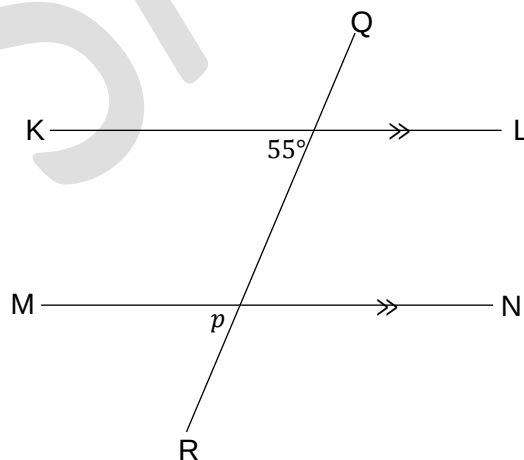


- A. $(-2; 0)$ and $(0; 6)$
- B. $(0; -2)$ and $(6; 0)$
- C. $(0; 6)$ and $(0; -2)$
- D. $(6; 0)$ and $(-2; 0)$

(1)

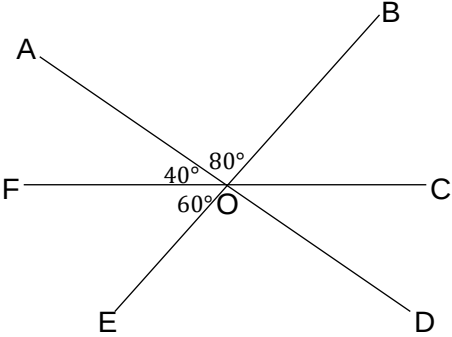
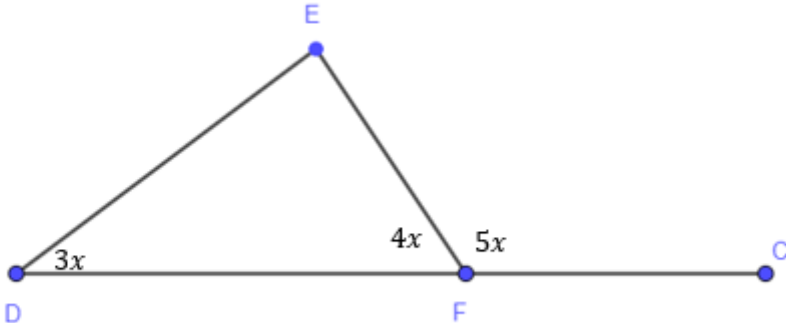
1.2

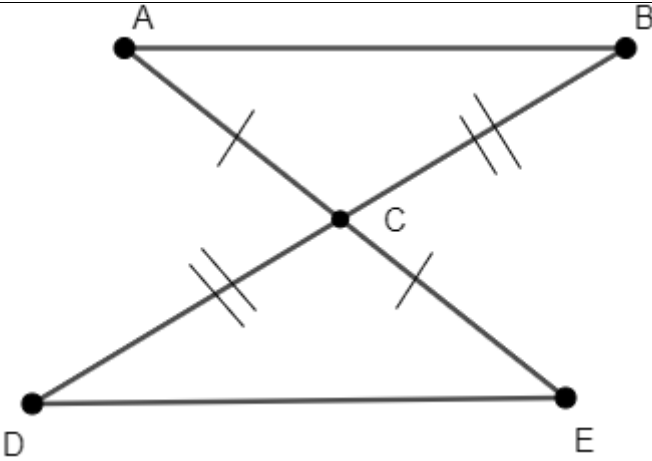
$KL \parallel MN$ in the figure below. What is the value of p ?



- A. 125°
- B. 55°

(1)

	C. 135° D. 35°		
1.3	What is the size of the angle vertically opposite to $\widehat{EOD}$?  ☒ A. 80° ☐ B. 60° ☐ C. 100° ☐ D. 40°		(1)
1.4	In $\triangle EDF$, DF is produced to C. The size of $\widehat{E}$ is ...?  ☒ A. 40° ☐ B. 60° ☐ C. 140° ☐ D. 20°		(1)
1.5	$\triangle ACB \equiv \triangle ECD$, because		(1)

	 A. A,A,S B. R,H,S C. S,A,S D. S,S,S		
[5]			
QUESTION 2			
2.1. Given $y = 2x - 4$			
2.1.1. Gradient is represented by the coefficient of x in $y = 2x - 4$. $\therefore \text{gradient}(m) = 2$		(2)	
2.1.2. What is the gradient of a line parallel to $y = 2x - 4$ passing through A (2, -3) ? Parallel lines have same gradient. $\text{gradient}(m) = 2$		(1)	
2.1.3. On the same system of axes draw these two lines. $y = 2x - 4$; <i>For x int($y = 0$)</i> $0 = 2x - 4$ $2x = 4$ $\frac{1}{2} \times 2x = \frac{1}{2} \times 4$ $x = 2$ <i>for y int($x = 0$)</i> $y = 2(0) - 4$ $y = -4$		(6)	

second line $y = 2x + c$

substitute $(2; -3)$

$$-3 = 2(2) + c$$

$$-3 = 4 + c$$

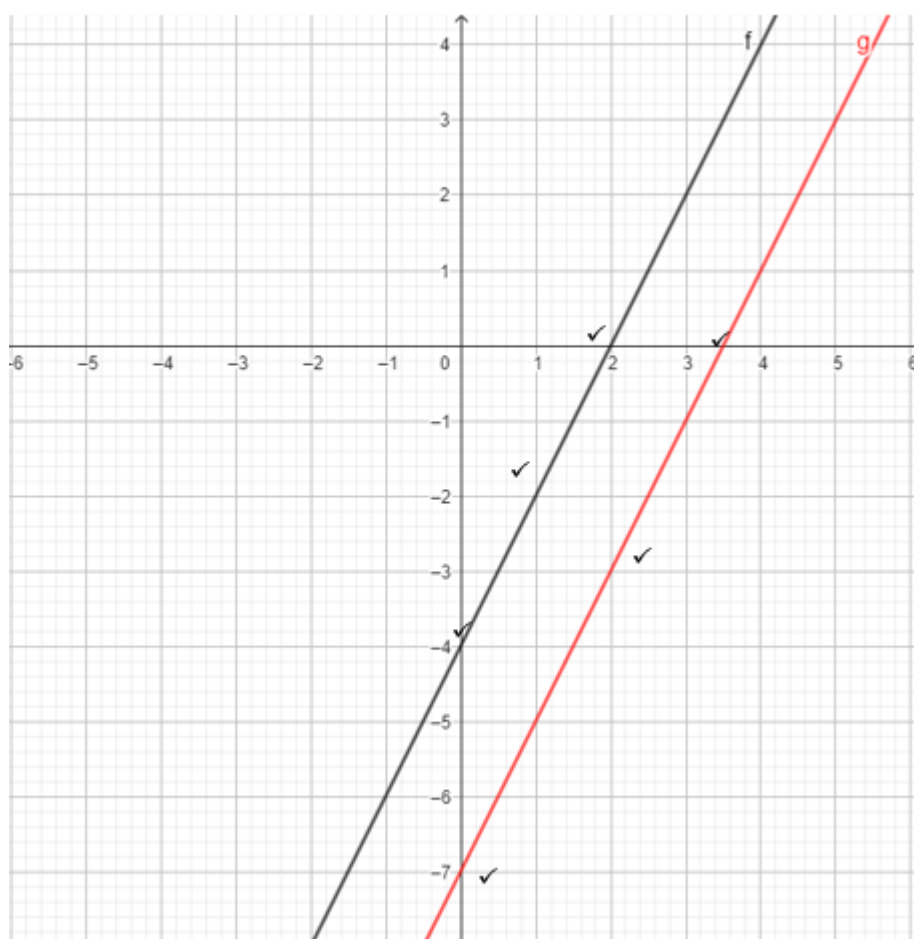
$c = -7$ y intercept

$$y = 2x - 7$$

for xint($y = 0$)

$$0 = 2x - 7$$

$$x = 3,5$$

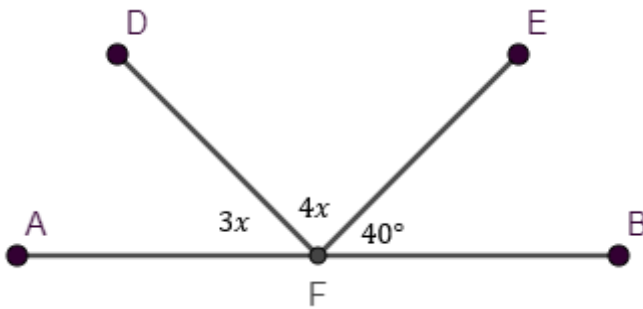


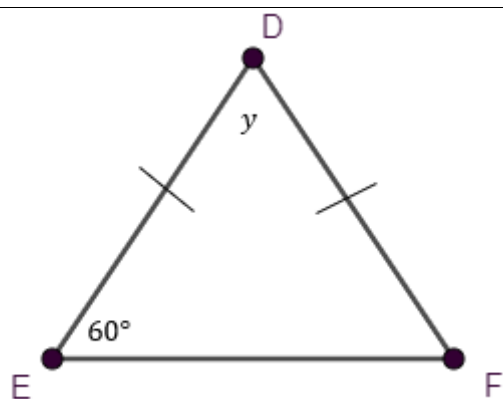
(4)

2.2. Determine the equation of the line passing through **A (-1; 6)**

and **B (2; -4)**

$$\begin{aligned} m &= \frac{y_2 - y_1}{x_2 - x_1} \quad \checkmark \\ &= \frac{-4 - 6}{2 - (-1)} \\ &= \frac{-10}{3} \quad \checkmark \end{aligned}$$

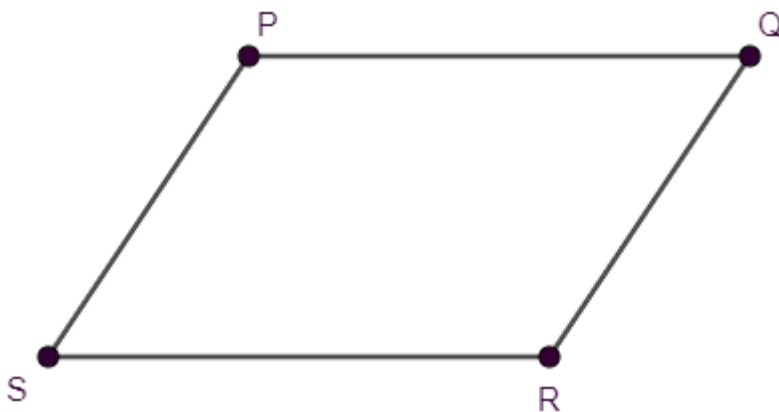
$\text{substitute in } y = mx + c$ $y = \frac{-10}{3}x + c$ $\text{substitute any point } 6 = \frac{-10}{3}(-1) + c$ $6 = \frac{10}{3} + c$ $c = \frac{18}{3} - \frac{10}{3}$ $c = \frac{8}{3} \quad \checkmark$ $y = \frac{-10}{3}x + \frac{8}{3} \quad \checkmark$			
		[13]	
QUESTION 3			
3.1	Refer to the diagram below to determine the value of x .Please provide a reason for your statement.  $\hat{A}FD + \hat{DFE} + \hat{EFB} = 180^\circ \quad \angle s \text{ on a str. line } \checkmark$ $3x + 4x + 40^\circ = 180^\circ$ $7x + 40^\circ = 180^\circ$ $7x - 40^\circ + 40^\circ = 180^\circ - 40^\circ$ $7x = 140^\circ$ $\frac{1}{7} \times 7x = 140^\circ \times \frac{1}{7}$ $x = 20^\circ \quad \checkmark$		(2)
3.2	Refer to the diagram below to determine the value of y .Please provide a reason for your statement.		(2)



$$\begin{aligned}\hat{D} + \hat{E} + \hat{F} &= 180^\circ \quad (\text{sum } \angle\text{s of } \Delta) \checkmark \\ \hat{E} &= \hat{F} \quad (\text{sides opp equal } \angle\text{s}) \\ y + 60^\circ + 60^\circ &= 180^\circ \\ y + 120^\circ &= 180^\circ \\ y + 120^\circ - 120^\circ &= 180^\circ - 120^\circ \\ y &= 60^\circ \quad \checkmark\end{aligned}$$

3.3

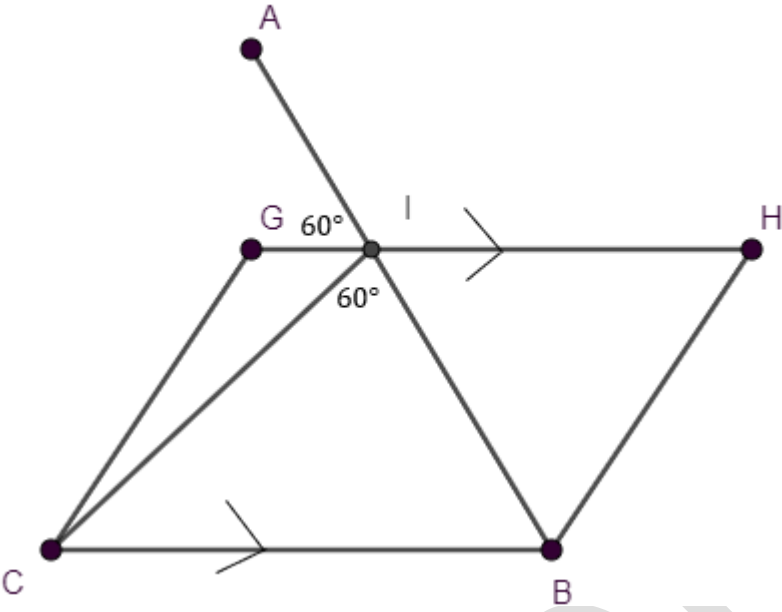
Refer to the diagram below to determine the value of z , if $\hat{P} = z + 20^\circ$ and $\hat{R} = 2z - 80^\circ$. PQRS is a parallelogram. Please provide a reason for your statement.

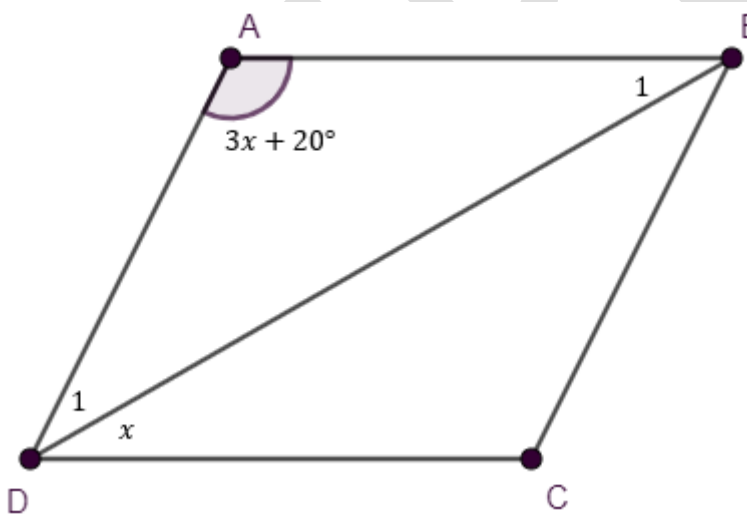


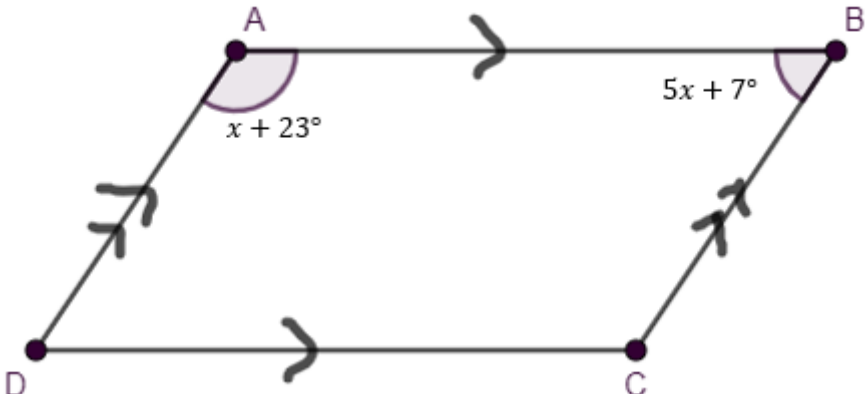
$$\begin{aligned}\hat{P} &= \hat{R} \quad (\text{opp } \angle\text{s of parm} =) \checkmark \\ z + 20^\circ &= 2z - 80^\circ \\ 2z - z &= 20^\circ + 80^\circ \\ z &= 100^\circ \quad \checkmark\end{aligned}$$

(2)

Refer to this diagram for questions 3.4;3.5 and 3.6.

			
3.4	Determine the value of $\hat{B}IH$, provide the reason. $\hat{B}IH = \hat{G}IA$ (vert opp $\angle s =$) ✓ $\hat{B}IH = 60^\circ$ ✓		(2)
3.5	Determine the value of $\hat{C}BI$, provide the reason. $\hat{C}BI = \hat{G}IA$ corresp $\angle s =$; $GH \parallel CB$ ✓ $\hat{C}BI = 60^\circ$ ✓ OR $\hat{C}BI = \hat{B}IH$ alt $\angle s =$; $GH \parallel CB$ ✓ $\hat{C}BI = 60^\circ$ ✓		(2)
3.6	Determine the value of $\hat{I}CB$, provide the reason. $\hat{I}CB + \hat{C}BI + \hat{C}IB = 180^\circ$ (sum $\angle s$ of Δ) ✓ $\hat{I}CB + 60^\circ + 60^\circ = 180^\circ$ $\hat{I}CB + 120^\circ = 180^\circ$ $\hat{I}CB + 120^\circ - 120^\circ = 180^\circ - 120^\circ$ $\hat{I}CB = 60^\circ$ ✓ OR $\hat{I}CB = \hat{G}IC$ (alt $\angle s =$; $GH \parallel CB$) ✓ $\hat{G}IC = 60^\circ$ $\angle s$ on str line $\therefore \hat{I}CB = 60^\circ$ ✓		(2)

			[12]
QUESTION 4			
4.1.	Fill in the missing words to complete the following facts concerning triangles:		
4.1.1	The exterior ✓ angle of a triangle equals the sum ✓ of the two interior opposite angles.		(2)
4.1.2	A triangle with all sides and all angles ✓ equal is an equilateral ✓ triangle .		(2)
4.2.	ABCD is a rhombus. Angle $\widehat{DAB}$ is $3x + 20^\circ$.  Determine the value of x, giving reasons. $\widehat{D}_1 + \widehat{A} + \widehat{B}_1 = 180^\circ$ (sum $\angle$s of Δ) ✓ $\widehat{D}_1 = \widehat{B}_1$ (sides opp equal $\angle$s) ✓ $x = \widehat{B}_1$ (alt $\angle$s =; $AB \parallel DC$) ✓ $\therefore x + 3x + 20^\circ + x = 180^\circ$ ✓ $5x + 20^\circ = 180^\circ$ $5x + 20^\circ - 20^\circ = 180^\circ - 20^\circ$ $5x = 160^\circ$ ✓		(6)

	$\frac{1}{5} \times 5x = 160^\circ \times \frac{1}{5}$ $x = 32^\circ \checkmark$		
4.3	 Calculate the value x, giving reasons. $\hat{A} + \hat{B} = 180^\circ \text{ (Co - int } \angle\text{s are suppl; } AB \parallel DC \text{) } \checkmark$ $x + 23^\circ + 5x + 7^\circ = 180^\circ$ $6x + 30^\circ = 180^\circ$ $6x + 30^\circ - 30^\circ = 180^\circ - 30^\circ$ $6x = 150^\circ$ $\frac{1}{6} \times 6x = 150^\circ \times \frac{1}{6}$ $x = 25^\circ \checkmark$	(2)	
4.4	Consider the sketch below. $AB = 8\text{cm}$, $BE = 3\text{cm}$, $ED = 12\text{cm}$ and $CD = 4\text{cm}$		

4.4.1	Complete: $\triangle ABE \parallel \triangle DCE$ $\checkmark$ $A; A; A$ $\checkmark$		(2)
4.4.2	Calculate the length of CE. $\frac{CE}{BE} = \frac{CD}{AB} \parallel \triangle s \checkmark$ $\frac{CE}{3} = \frac{4}{8} \checkmark$ $8 \times CE = 3 \times 4$ $CE = \frac{3 \times 4}{8} \checkmark$ $CE = 1,5 \text{ cm} \checkmark$		(4)
4.4.3	Calculate the length of AE. $\frac{AE}{ED} = \frac{CE}{BE} \parallel \triangle s \checkmark$ $\frac{AE}{12} = \frac{1,5}{3}$ $3 \times AE = 12 \times 1,5$ $AE = \frac{12 \times 1,5}{3}$ $AE = 6 \text{ cm} \checkmark$		(2)
			[20]

Total

50 Marks