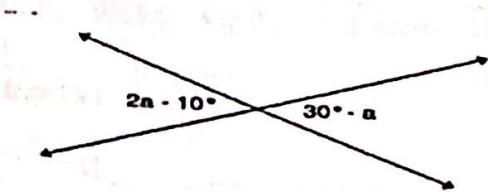


QUESTION 1

1.	MULTIPLE CHOICE QUESTIONS		
	Example 1.11. B		
	1.1	$(a + b)^0 = ?$ A. $a + b$ B. 2 C. 1 D. 0	(1)
	1.2	The highest common factor of 18, 30, and 48 is? A. 3 B. 4 C. 6 D. 8	(1)
	1.3	Complete the following 2000 ml =L of liquid. A. 1L B. 2L C. 3L D. 20L	(1)
	1.4	The sum of interior angles of a quadrilateral is? A. 180° B. 360° C. 90° D. 270°	(1)

1.5	<p>Complete the flow diagram by using given rule</p> <p>(1)</p> <div style="text-align: center;"> <p>Input Rule Output</p> </div> <p>A. -18</p> <p>B. -34</p> <p>C. -36</p> <p>D. -38</p>
1.6	<p>If two straight lines are parallel, then the...</p> <p>(1)</p> <p>A. Product of the gradients is -1.</p> <p>B. Gradients are equal.</p> <p>C. Product of the gradients is 1.</p> <p>D. Sum of the gradients is 0.</p>
1.7	<p>$4,8 - 2,042 = \dots\dots\dots$</p> <p>(1)</p> <p>A. 2,38</p> <p>B. 2,420</p> <p>C. 2,756</p> <p>D. 2,750</p>
1.8	<p>$x^2 \times x^3 = \dots\dots\dots?$</p> <p>(1)</p> <p>A. x^2</p> <p>B. x^1</p> <p>C. x^5</p> <p>D. x^6</p>

1.9	Find the value of a.	(1)
	 <p>A. $13,3^\circ$ B. 15° C. 40° D. 10°</p>	
1.10	$(2x - 3)(x + 4) = \dots\dots\dots?$	(1)
	<p>A. $2x^2 + 5x - 12$ B. $2x^2 - 5x + 12$ C. $2x^2 - 3x + 12$ D. $2x^2 - 3x + 12$</p>	
MARKS:[10]		

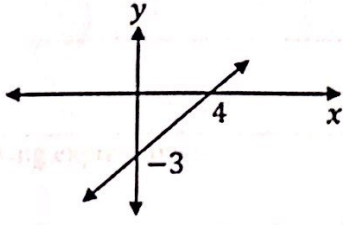
QUESTION 2

2.1	Express each percentage as a fraction and simplify where possible:-	(1)
	A. 64%	(2)
	B. $9\frac{3}{8}\%$	(1)
	C. 0,4%	
2.2	What fraction is :	(2)
	A. 450 mm of 8 m.	
MARKS:[6]		

QUESTION 3

3	Study the flow diagram below and answer questions that follows:															
	<div><div>Input Values</div><div><div><div><div></div><div></div><div></div><div></div></div><div><div>-2</div><div>-1</div><div>0</div><div>1</div></div><div><div></div><div></div><div></div><div></div></div><div><div></div><div></div><div></div><div></div></div></div><div><div><div><div></div><div></div><div></div><div></div></div><div><div>$2x + 3$</div></div><div><div></div><div></div><div></div><div></div></div></div></div><div><div>Output Values</div><div><div></div><div></div><div></div><div></div></div><div><div>a</div><div>b</div><div>c</div><div>d</div></div></div></div></div>															
3.1.	Determine the numerical values of the output values a, b, c and d .Write the values in the table below.															
	<table><tr><td>x</td><td>-2</td><td>-1</td><td>0</td><td>1</td></tr><tr><td>y = 2x + 3</td><td>a</td><td>b</td><td>c</td><td>d</td></tr></table>					x	-2	-1	0	1	y = 2x + 3	a	b	c	d	(4)
x	-2	-1	0	1												
y = 2x + 3	a	b	c	d												
3.2.	State the rule in words					(2)										
3.3.	Determine the ordered pairs of numbers.					(2)										
MARKS:[8]																

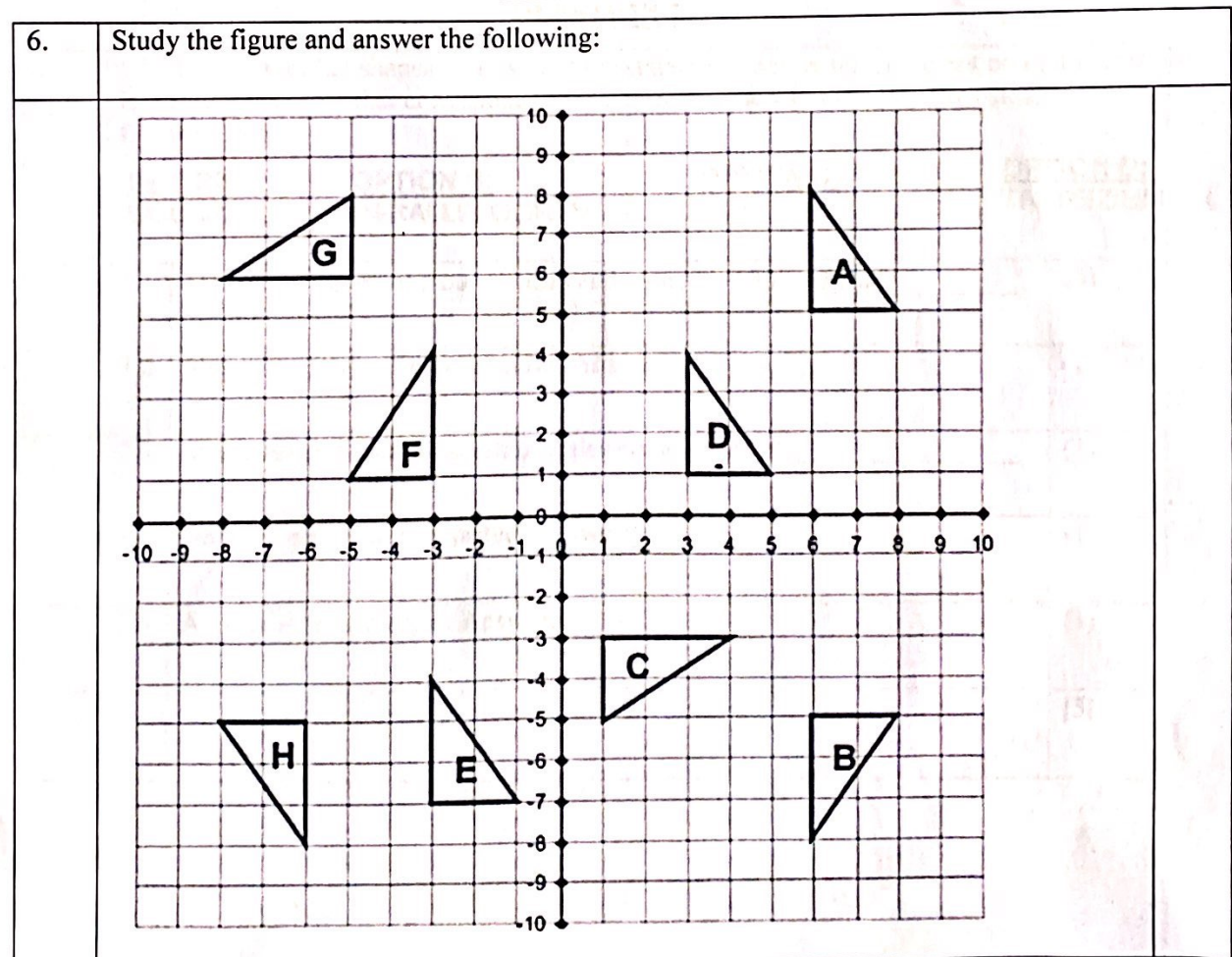
QUESTION 4

4.1	Given the straight-line graph below:				
					
4.1	Determine the gradient.				(1)
4.2	Determine the equation of the given straight-line graph. Use $y = mx + c$				(2)

4.2	Given the equation $y = 2x - 2$, then answer the following:		
	4.2.1	Calculate the value of x .	(2)
	4.2.2	Calculate the value of y .	(1)
	4.2.3	Draw the graph of $y = 2x - 2$.	(3)
MARKS:[9]			
QUESTION 5			
5.1	Solve the following equations:-		
	5.1.1	$2x - 7 = 15$	(2)
	5.1.2	$x^2 - 2x - 3 = 0$	(3)
	5.1.3	$2^x = 8$	(2)
	5.1.4	$8 = \frac{4}{x}$	(2)
	5.1.5	$5(x - 1) - (1 - 2x) = 8$	(4)
5.2	Simplify each of the following expressions:-		
	5.2.1	$3m - n + 6n - 5m$	(2)
	5.2.2	$\frac{b^3 + 18b^2 - 15b}{3b}$	(3)

5.3	Factorize each of the following:-		
5.3.1	$m^2 - n^2$		(2)
5.3.2	$a^2 + 4a + 4$		(2)
5.3.3	$x^2 - 6x + 9$		(2)
MARKS:[24]			

QUESTION 6

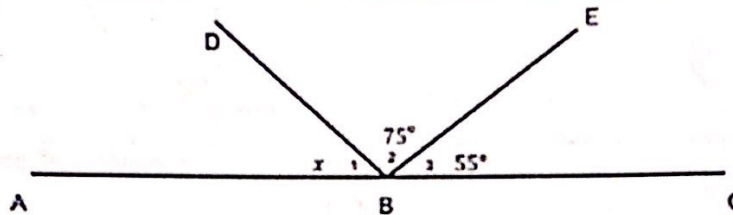
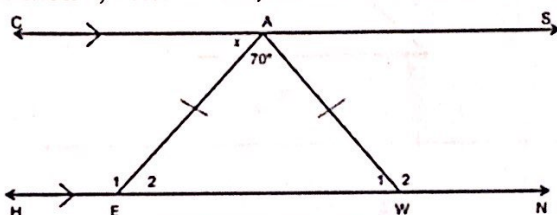
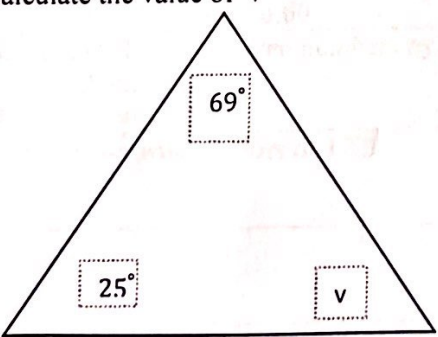
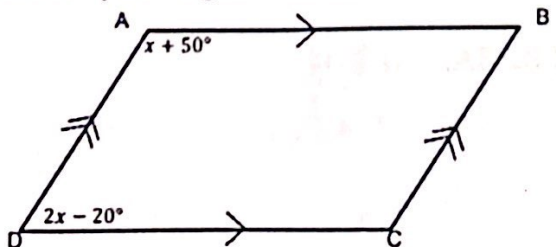


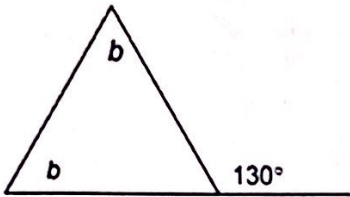
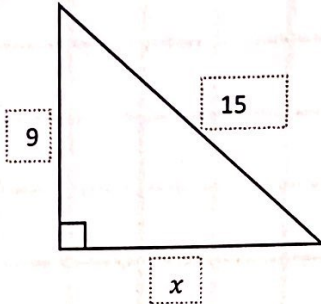
6.1	Use the graph to fill up the table:																
	<table border="1"> <thead> <tr> <th>From</th><th>To</th><th>Describe transformation</th></tr> </thead> <tbody> <tr> <td>A</td><td>B</td><td></td></tr> <tr> <td>D</td><td></td><td>Translation 3 units right and 4 units up</td></tr> <tr> <td>F</td><td></td><td>Reflection over the y-axis</td></tr> <tr> <td>A</td><td>G</td><td></td></tr> </tbody> </table>	From	To	Describe transformation	A	B		D		Translation 3 units right and 4 units up	F		Reflection over the y-axis	A	G		(4)
From	To	Describe transformation															
A	B																
D		Translation 3 units right and 4 units up															
F		Reflection over the y-axis															
A	G																
6.2	Enlarge triangle D by the scale factor of 2, through the origin. Label your new triangle D' . Answer on the graph paper provided.	(2)															
		[6]															

QUESTION 7

7	Classification of 2D shapes. For each of the statements below select the option that is true by writing the letter that corresponds to the correct answer in the space provided. Example 5.6.B			
	<u>OPTION A:</u> SQUARE	<u>OPTION B:</u> PARALLELOGRAM	<u>OPTION C:</u> KITE	<u>OPTION D:</u> TRAPEZIUM
7.1	Shape has 2 pairs of parallel sides and corners of 90° . Answer: _____			(1)
7.2	Shape has 1 pair of parallel sides. Answer: _____			(1)
7.3	Shape has one pair of opposite angles equal. Answer: _____			(1)
7.4	Only one diagonal is bisected. Answer: _____			(1)
7.5	All four sides are equal. Answer: _____			(1)
				[5]

QUESTION 8

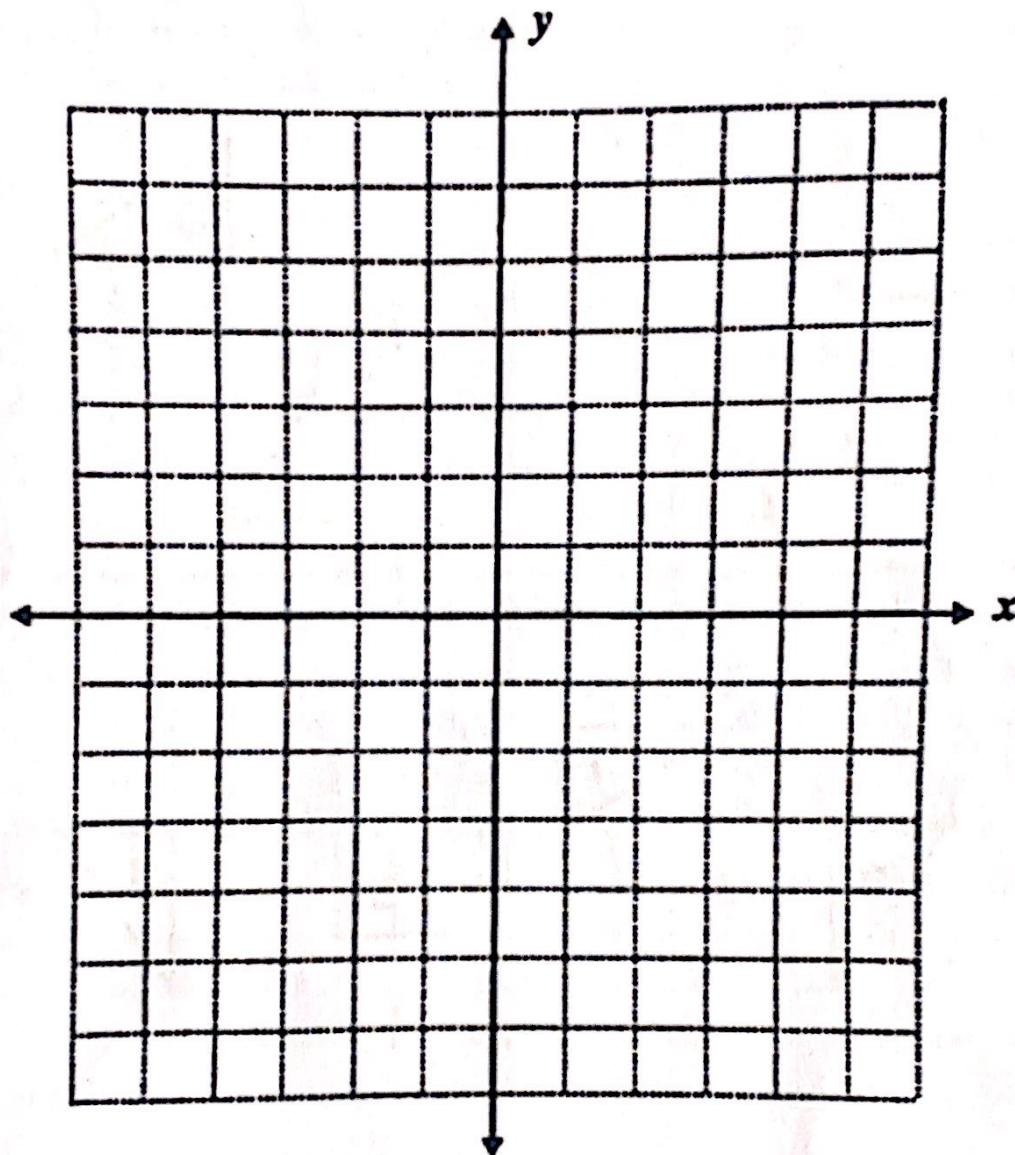
8.1	In the figure below, ABC is a straight-line, $\widehat{B}_2 = 75^\circ$ and $\widehat{B}_3 = 55^\circ$.	
		
8.1.1	Determine with reason the size of angle x .	(2)
8.2	In the figure below, $CS \parallel HN$, $\widehat{EAW} = 70^\circ$, $AE = AW$ AND $\widehat{CAE} = x$	
		
8.2.1	Give a reason why $\widehat{E}_2 = x$.	(1)
8.2.2	Hence, determine the value of x .	(3)
8.3	Calculate the value of v	(3)
		
8.4	ABCD is a parallelogram. Calculate the size of \widehat{B} .	(4)
		

8.4	Calculate the size of \hat{b} .	(3)
		
8.6	Calculate the value of x .	(3)
		
		[19]
QUESTION 9		
9.1	Find the LCM for the given numbers by prime factors	
	I. 52 and 78	(2)
	II. 24, 36 and 60	(3)
9.2	Find the HCF for the given numbers by using prime factorization	
	I. 52 and 78	(2)
	II. 27, 36, and 90	(3)
9.3	What are the prime factors of 1728	(3)
MARKS:[13]		

TOTAL MARKS:[100]

Learner's name: _____ Grade 9

4.2.3



Learner's name: _____ Grade 9

6.2

