HILLCREST HIGH SCHOOL

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INTERNAL EXAMINATION

GRADE 8

MATHEMATICS
Paper 2
NOVEMBER 2022

MARKS: **70**

TIME: **1 hour**

NAME :									CLASS:	
TEACHER:									DATE:	
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	TOTAL	%
9	4	5	8	8	8	9	13	3	70	

This question paper consists of 9 pages.

INSTRUCTIONS AND INFORMATION

Read the following instructions carefully before answering the questions.

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

$$A = l \times b$$

$$A = \frac{1}{2}b \times h$$

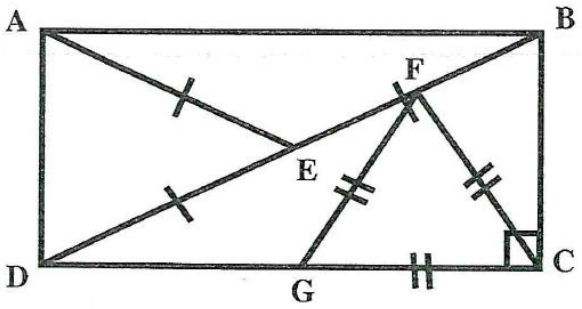
$$a^2 + b^2 = c^2$$

$$AB^2 + BC^2 = AC^2$$

QUESTION 1

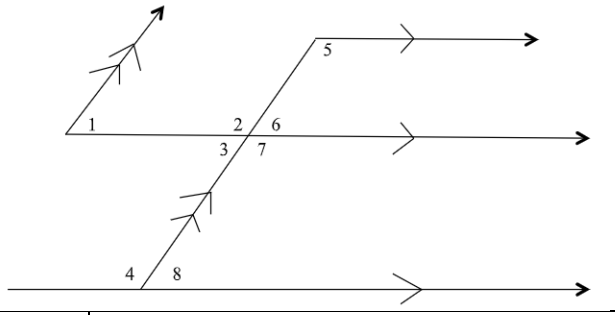
	Complete the following sentences:	
1.1	The supplement of 35° is _____.	(1)
1.2	70° is the _____ of 20°.	(1)
1.3	An angle of 360° is called a _____.	(1)
1.4	Vertically opposite angles are _____.	(1)
1.5	The angle of 253° is called a _____ angle.	(1)
1.6	A triangle with three equal sides is called an _____ _____.	(1)
1.7	In a right-angled isosceles triangle the sizes of the angles are ____° ,____° and ____°	(3)
		[9]

QUESTION 2



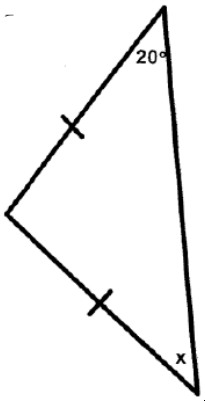
	Examine the rectangle ABCD above, and identify, if possible, one of each of the following triangles:	
2.1	An equilateral triangle:_____	(1)
2.2	A right angled triangle:_____	(1)
2.3	An obtuse scalene triangle:_____	(1)
2.4	An acute isosceles triangle:_____	(1)
		[4]

QUESTION 3

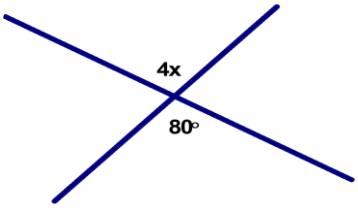


	Describe the position of the following angle pairs:	
3.1	1 and 2:	(1)
3.2	2 and 4:	(1)
3.3	3 and 6:	(1)
3.4	3 and 8:	(1)
3.5	2 and 6:	(1)
		[5]

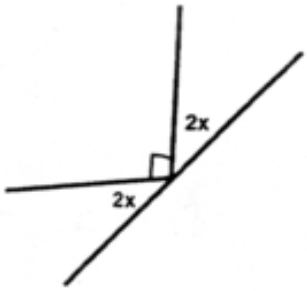
QUESTION 4



	Solve for x, giving reasons:	
4.1		(2)

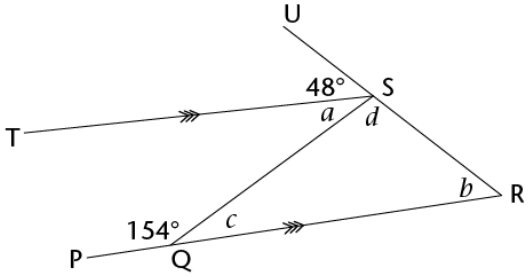


	Solve for x, giving reasons:	
4.2		(3)



	Solve for x, giving reasons:	
4.3		(3)
		[8]

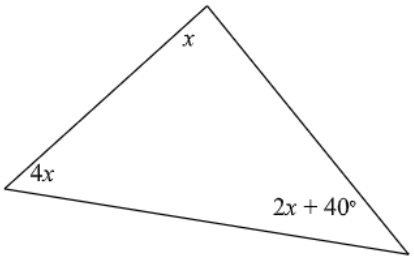
QUESTION 5



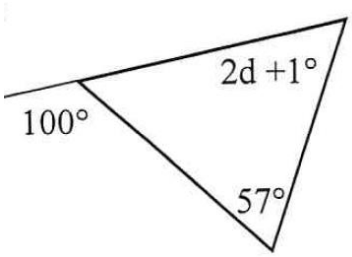
	Solve for angles a, b, c and d in order, giving reasons for each angle:	
4.1	a=	(2)
4.2	b=	(2)
4.3	c=	(2)

4.4	d=	(2)
		[8]

QUESTION 6

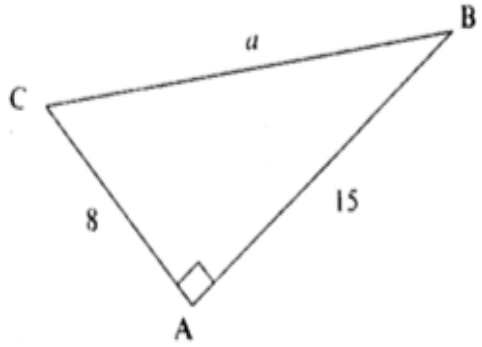


	Calculate, with reasons, the value of x.	
6.1		(4)

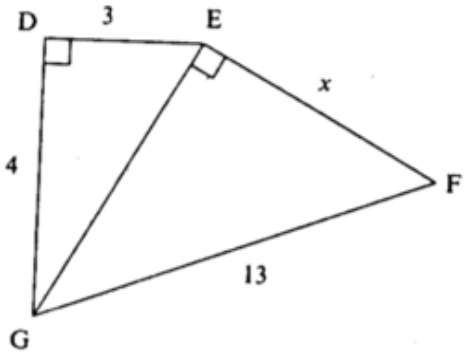


	Calculate, with reasons, the value of d.	
6.2		(4)
		[8]

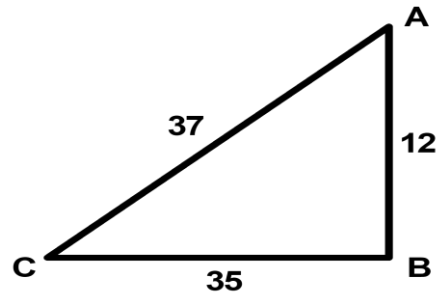
QUESTION 7



7.1	Determine, with reasons, the length of the side marked "a".	(3)

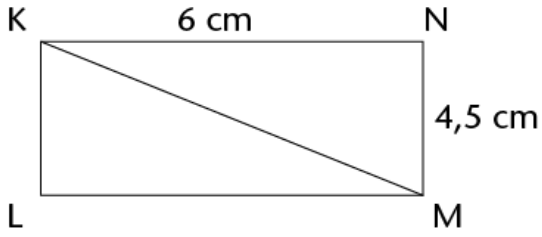


7.2	Determine, with reasons, the length of the side marked x.	(3)



7.3	Determine if the above triangle ABC is a right-angled triangle? Justify your answer.	(3)
		[9]

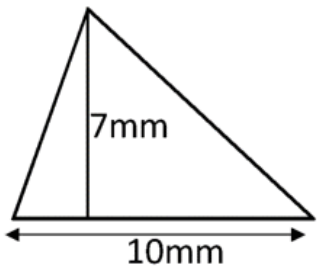
QUESTION 8



	Calculate the following showing all working out;	
8.1	Perimeter of rectangle KLMN	(2)
8.2	Perimeter of ΔKMN	(5)

8.3	Area of rectangle KLMN	(3)
8.4	Area of ΔKMN	(3)
		[13]

QUESTION 9



9.1	Calculate the area of the triangle above:	(3)
		[3]

TOTAL:70