## MARKING MEMORANDUM

# **QUESTION 1**

Q#	SUGGESTED ANSWER	DESCRIPTORS
1.1	105° ✓	
1.2	120° 🗸	1 mark each for the
1.3	Isosceles △ ✓	correct answer
1.4	Complement 🗸	
1.5	Rotation 🗸	
1.6	Parallel 🗸	$(1 \times 7 = 7)$
1.7	Equal 🗸	[7]

## **QUESTION 2**

2.1.1	$90^{\circ} + 50^{\circ} + x = 180^{\circ}$ (straight angle or adjacent supplement	1 mark for statement	
	< 's 🗸	1 mark for reason	
	$x = 40^{\circ} $	1 mark answer	(3)
2.1.2	$2x + 10^{\circ} = 3x - 50^{\circ}$ (vertically opposite < 's) $2x - 3x = -50^{\circ} - 10^{\circ}$ $2x - 3x = -50^{\circ} - 10^{\circ}$ $-2x = -60^{\circ}$ $x = 30^{\circ}$	1 mark for statement 1 mark for reason 1 mark answer	(3)
2.2.1	$a = 105^{\circ}        \text$	1 mark for answer	
		1 mark for reason	(2)
2.2.2	$b + 50^{\circ} = 180^{\circ} \checkmark$ (co-interior < 's of a $\triangle$ ) $\checkmark$	1 mark for statement	
	$b = 130^{\circ} \checkmark$	1 mark for reason	(3)
2.2.3	$63^{\circ} + c = 90^{\circ} \checkmark \text{ (adjacent complementary < 's)} \checkmark c = 27^{\circ} \checkmark$	1 mark answer 1 mark for statement 1 mark for reason 1 mark answer	(3)
		[14]	]

## **QUESTION 3**

3.1.	$x = 80 ^{\circ}  \checkmark$ alternate < 's; AC    BD $\checkmark$	1 mark for value of x and
		1 mark for reason
	$60^{\circ} = y + 10^{\circ} \checkmark$ corresponding $\langle s; \checkmark AC \parallel BD \rangle$	1 mark for equation
		1 mark for reason
	$y = 50^{\circ}$	1 mark for value of y
		(5)
3.2	$a + 2a = 180^{\circ} \checkmark \text{ straight} < \checkmark$	1mark for statement
	$a = 60^{\circ} \checkmark$	1mark for reason

		1 mark for value of $a$ and
	$\Delta PQR$ is an Isosceles $\Delta \checkmark$ since sides are equal. $2a + c = 180° \checkmark$ $c = 60° \checkmark$ OR $\Delta PQR$ is an Equiangular $\Delta \checkmark$ since $a = 60°$ and two sides equal, another $a = 60°$ then all < 's $\checkmark$ equal. $c = 60 \checkmark$	<ol> <li>marks for valid reason i.e.</li> <li>1mark recognition of the triangle –</li> <li>Equilateral Δ or Isosceles Δ</li> <li>1mark for finding the connection (all &lt; 's = for Equilateral Δ or two &lt; s = for the Isosceles Δ)</li> <li>1 mark for finding value of c</li> </ol>
		(6)
3.3	<ol> <li>equilateral Δ </li> <li>equilateral Δ </li> <li>isosceles Δ </li> <li>right angled Δ </li> <li>quadrilateral </li> <li>kite </li> </ol>	1 mark for correct answer $(1 \times 6 = 6)$
		[17]

Question 4

4.1.	$x + 10^{\circ} + x + 10^{\circ} + 50^{\circ} = 180^{\circ}$ sum three	1 mark for statement	
4.1.			
	< 's in Isosceles Δ✓	1 mark for reason	
	$2x + 70 = 180^{\circ}$	1 mark answer	
	$x = 55^{\circ}$		(3)
4.2.1	$x + 55^{\circ} = 90^{\circ} \checkmark$	1 mark for statement	
	adjacent complementary < 's✔	1 mark for reason	
	$x = 35^{\circ}$	1 mark for answer	
			(3)
4.2.2	$z = 35^{\circ}$ $\checkmark$ alternate $<$ 's; MQ $\parallel$ NP $\checkmark$	1 mark for answer	
	, , , , , ,	1 mark for reason	
			(2)
4.2.3	$y + x = x = 180^{\circ}$	1 mark for statement	
	,	1 mark for reason	
	sum $3 < s$ in Isosceles $\Delta = 180^{\circ}$	1 mark for substitution /simplification	
	$y + 70^{\circ} = 180^{\circ} \checkmark$	1 mark answer	(4)
	$y = 110^{\circ} \checkmark$	I mark answer	
			[12]

# Question 5

5.1.2	$\triangle$ ABC and $\triangle$ DEF	2 marks for logical explanation
	The triangles are congruent because the hypotenuse	
	of the right-angled triangles, are equal and a second	
	side is equal. 🗸 🗸	(2)
5.1.2	$\Delta$ ABC and $\Delta$ GHJ  These triangles are similar. Two corresponding angles are equal. The third angle will also be equal	1marks for logical explanation
	because the sum of the angles is 180°.	(2)
5.2.1	Parallelogram: 🗸	1 mark for correct 2 D shape

	2 pairs opposite sides parallel.	1 mark for any correct characteristic
	2 pairs of opposite sides are parallel.	
	2 pairs of opposite angles are equal	
5.2.2	All interior angles add to 360 🗸	
	Trapezium 🗸	1 mark for correct 2 D shape 1 mark for any correct characteristic
	1 pair opposite sides parallel.	
5.2.3	All interior angles add to 360 ✓	1 mark for correct 2 D shape 1 mark for any correct characteristic
	Square 🗸	
	2 pairs opposite sides parallel.	
	All angles equal.	
	2 pairs of opposite sides are parallel.	
	All interior angles add to 360 🗸	
	1 2	