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GRADE 12

JUNE 2024

**TECHNICAL MATHEMATICS P2
SPECIAL ANSWER BOOK (DEAF)**

QUESTION	MARKS			HOD (Level 1 mod.)			DISTRICT (Level 2 mod.)			PROVINCIAL (Level 3 mod.)		
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
TOTAL												

This special answer book has 25 pages.

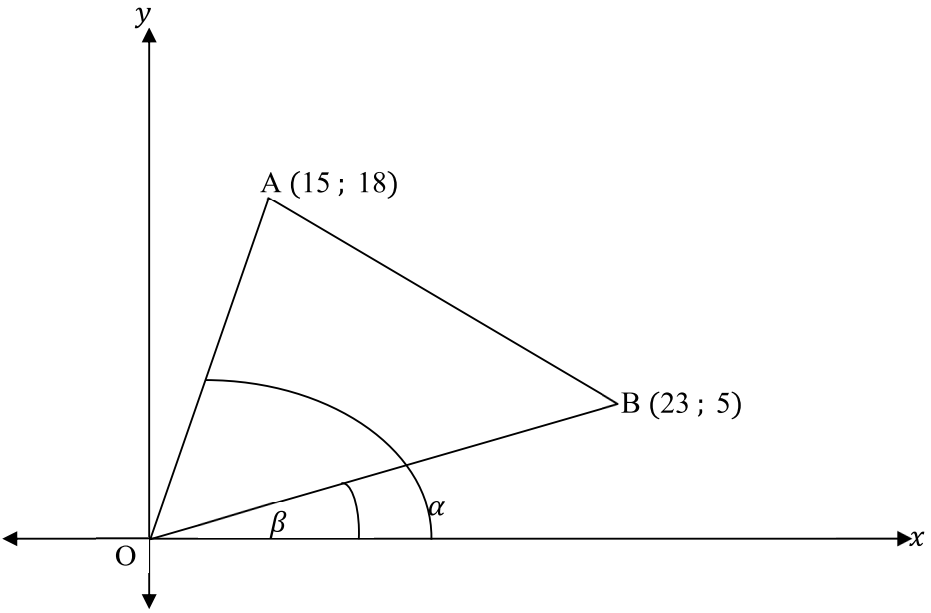


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FOLLOW THESE INSTRUCTIONS CAREFULLY

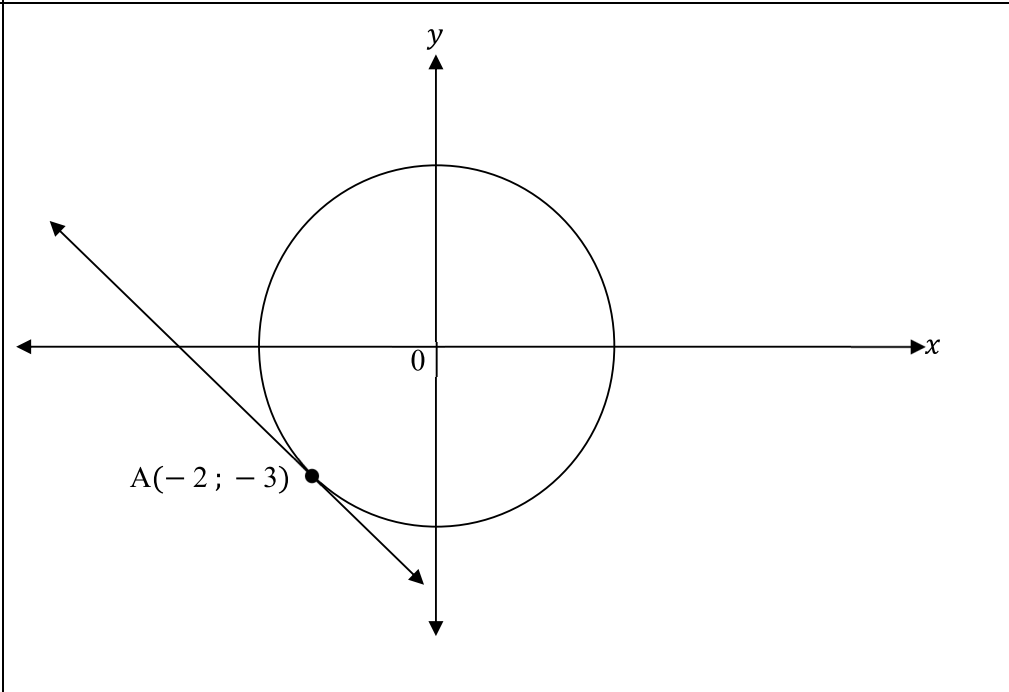
1. **Answer ALL questions** in the spaces provided.
2. **No pages** may be **torn** from this ANSWER BOOK.
3. **Answers** must be **written** in **black/blue ink** as **distinctly**^(clearly) as **possible**.
Do not write in the **margins**.
4. **Indicate**^(show) the **questions** you have **answered** by **drawing** a **circle** around the **relevant numbers** on the **front cover** of the ANSWER BOOK where **marks** are to be **recorded**.
5. **Draw a line through** any **work/rough work** that **must not be marked**.
6. In the **event** that you **use** the **additional space** provided:
 - 6.1 **Write down** the **number** of the **question**.
 - 6.2 **Leave a line** and **rule off** after your **answer**.

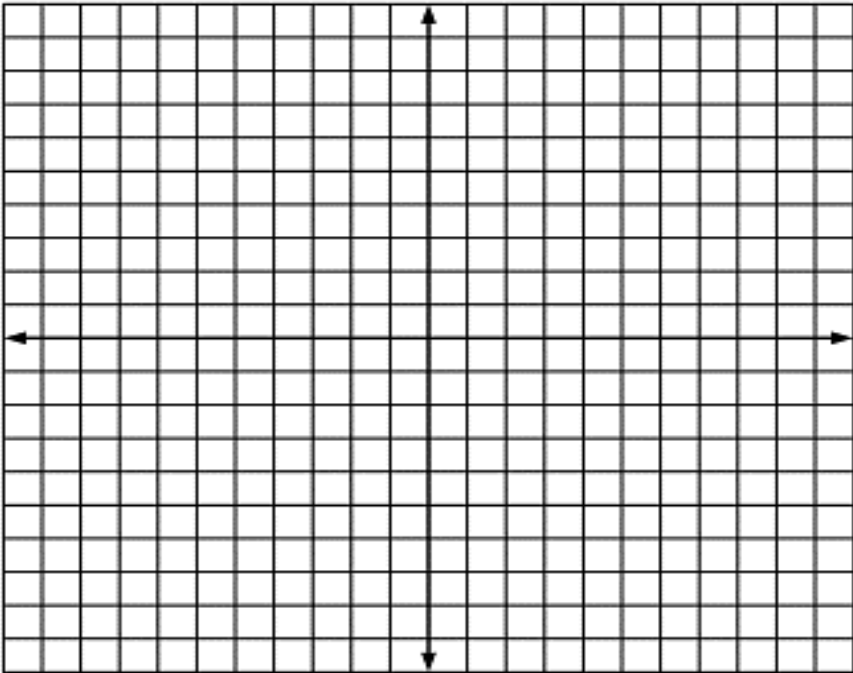
QUESTION 1

	Solution	Marks
		
1.1	<div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div>	(4)
1.2	<div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div>	(3)

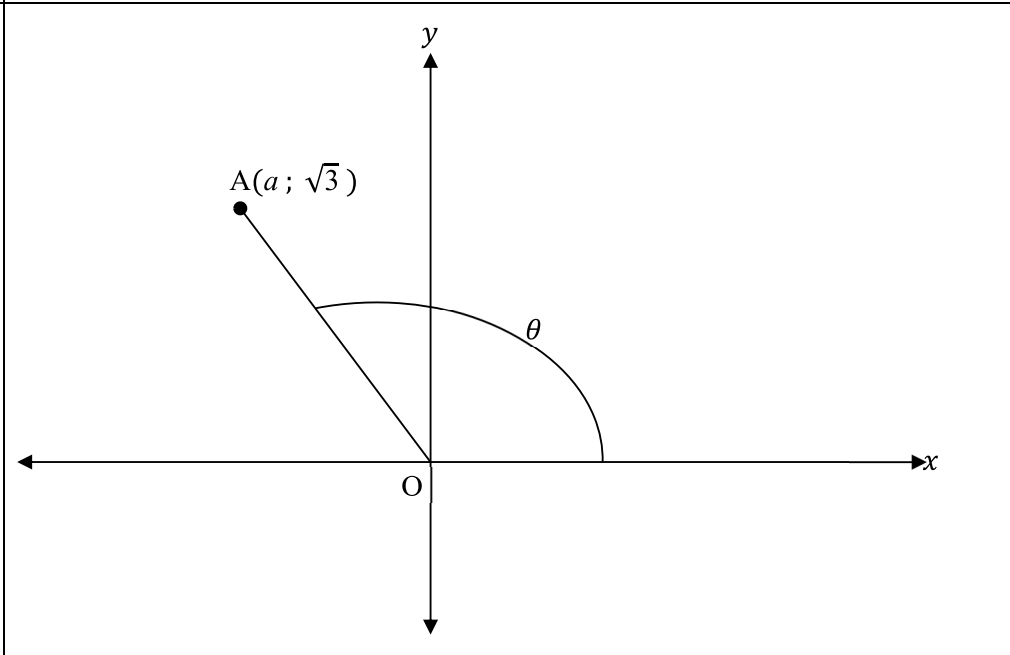
	Solution	Marks
1.3		(4)
1.4		(5)
		[16]

QUESTION 2

	Solution	Marks
2.1		
2.1.1		(1)
2.1.2	<div style="border: 1px solid black; height: 235px; width: 100%;"></div>	(4)
2.1.3	<div style="border: 1px solid black; height: 157px; width: 100%;"></div>	(2)

	Solution	Marks
2.2	<div style="border: 1px solid black; padding: 10px; text-align: center;">  </div>	(3)
		[10]

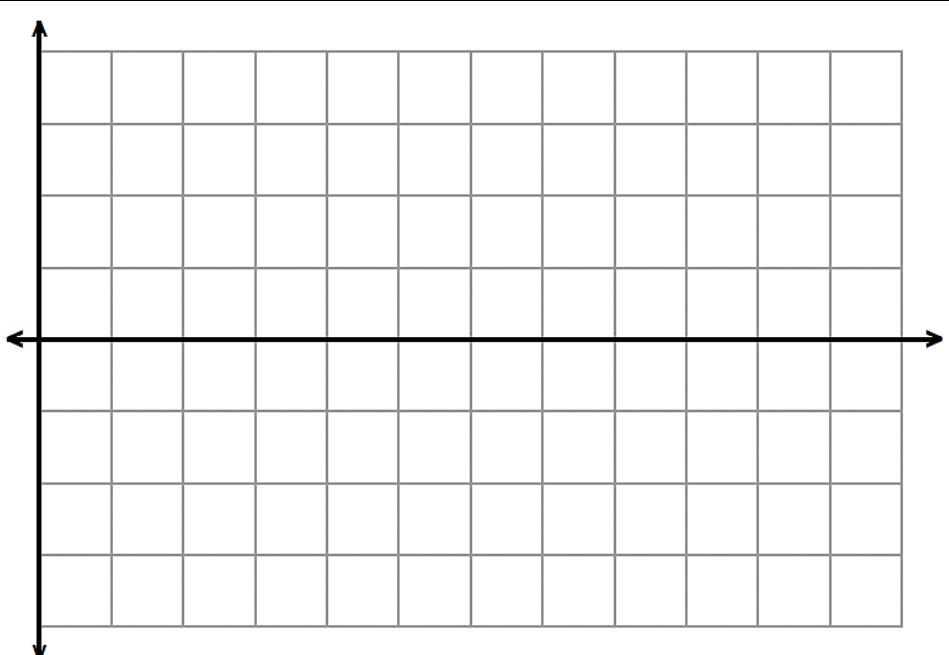
QUESTION 3

	Solution	Marks
3.1		
3.1.1	<div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div>	(3)
3.1.2	<div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div>	(1)
3.1.3	<div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 15px; margin-bottom: 5px;"></div>	(3)

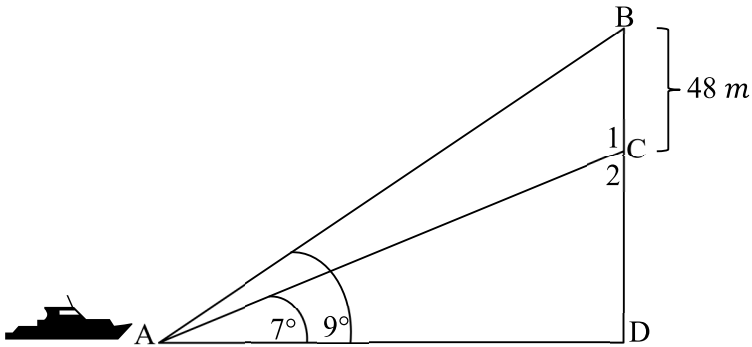
3.2		
		(4)
		[11]

4.2	$(\operatorname{cosec} B - \cot B)^2 = \frac{1 + \cos B}{1 - \cos B}$	
	(6)	
	[12]	

QUESTION 5

	Solution	Marks
5.1		(1)
5.2		(1)
5.3		(8)
5.4.1		(2)
5.4.2		(2)
		[14]

QUESTION 6

	Solution	Marks
6.1		(1)
6.2		
6.2.1		(2)
6.2.2		(2)
6.2.3		(4)

	Solution	Marks
6.2.4		(2)
6.2.5		(3)
		[14]

QUESTION 7

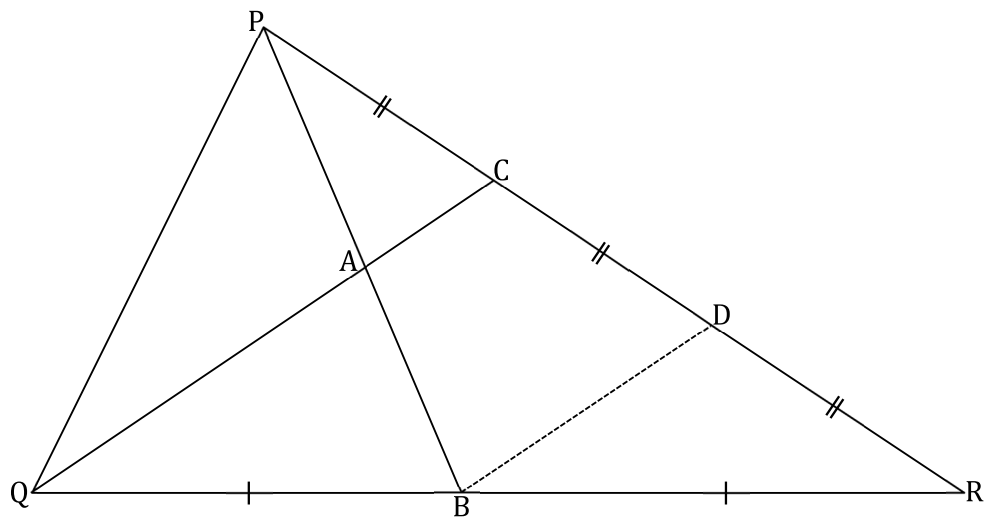
	Solution	Marks
7.1	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	(6)
7.2	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	(5)

	Solution	Marks
7.3		
		(3)
		[14]

QUESTION 8

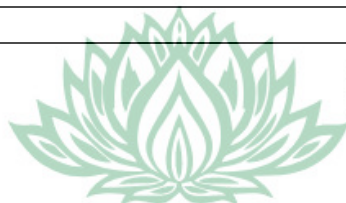
	Solution	Marks
8.1	<div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 15px; width: 100%;"></div>	

QUESTION 9


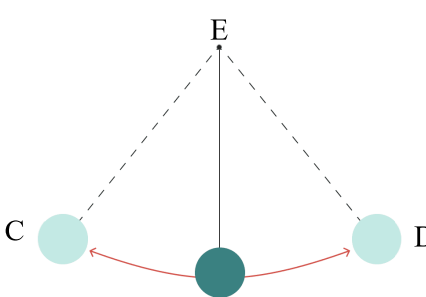
	Solution	Marks
		
9.1	<div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div>	(3)
9.2	<div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div>	(3)
9.3	<div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div> <div style="border-bottom: 1px solid black; height: 20px; width: 100%;"></div>	(6)
		[12]


QUESTION 10

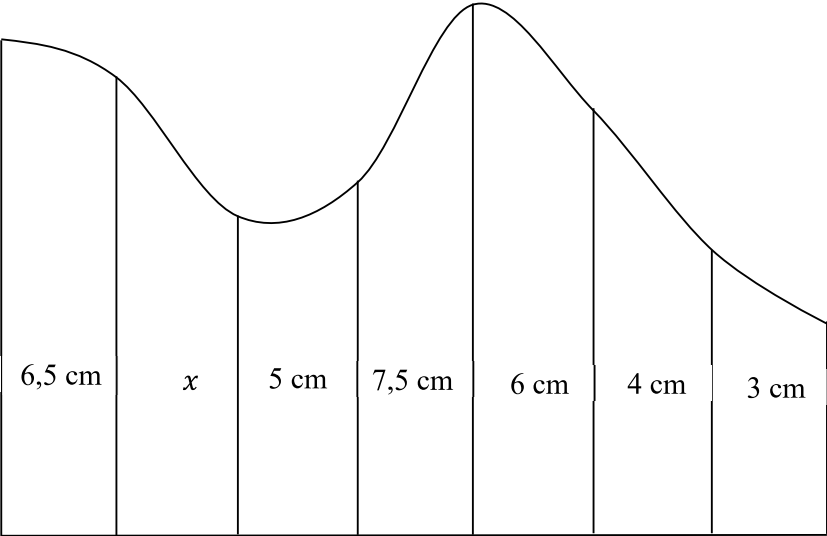
	Solution	Marks
10.1		(2)
10.2		(5)
10.3		(3)
10.4		(3)
10.5		(2)
		[15]



QUESTION 11

	Solution	Marks
11.1	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>FIGURE A</p>  </div> <div style="text-align: center;"> <p>FIGURE B</p>  </div> </div>	
11.1.1	<div style="border: 1px solid black; height: 156px; width: 100%;"></div>	(3)
11.1.2	<div style="border: 1px solid black; height: 184px; width: 100%;"></div>	(3)
11.1.3	<div style="border: 1px solid black; height: 183px; width: 100%;"></div>	(3)

	Solution	Marks
11.2		
	<div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> <div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div>	(5)

	Solution	Marks
11.3		
	<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	(4)
		[18]
	TOTAL:	150

