

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN.
OBJECTIVE KEY FOR INTERMEDIATE 1st ANNUAL EXAMINATION, 2025

Name of Subject: math - I Group I

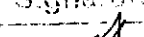
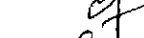
Q. Nos	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer	Paper Code	Correct Answer
1	2191	A Irrational	2193	B $2\pi/3$	2195	C 180°	2197	D 0
2		B -1		C Greatest angle		D 12		C $2, 2\omega, 2\omega^2$
3		D All choices are correct		D $3\sqrt{3}$		B $\frac{1}{2} \times 20$		B $A = \frac{1}{2}, B = -\frac{1}{2}$
4		C 03		A 0		D $\cos 0^\circ$		A Natural
5		A $k^4 A $		B $\pi/6$		A $4 \sin 60^\circ \cos 20^\circ$		B 65
6		D 0		A Irrational		B $2\pi/3$		C 180°
7		C $2, 2\omega, 2\omega^2$		B -1		C Greatest angle		D 12
8		B $A = \frac{1}{2}, B = -\frac{1}{2}$		D All choices are correct		D $3\sqrt{3}$		B $\frac{1}{2} \times 20$
9		A Natural		C 3		A 0		D $\cos 0^\circ$
10		B 65		A $k^4 A $		B $\pi/6$		A $4 \sin 60^\circ \cos 20^\circ$
11		C 180°		D 0		A Irrational		B $2\pi/3$
12		D 12		C $2, 2\omega, 2\omega^2$		B -1		C Greatest angle
13		B $\frac{1}{2} \times 20$		B $A = \frac{1}{2}, B = -\frac{1}{2}$		D All choices are correct		D $3\sqrt{3}$
14		D $\cos 0^\circ$		A Natural		C 03		A 0
15		A $4 \sin 60^\circ \cos 20^\circ$		B 65		A $k^4 A $		B $\pi/6$
16		B $2\pi/3$		C 180°		D 0		A Irrational
17		C Greatest angle		D 12		C $2, 2\omega, 2\omega^2$		B -1
18		D $3\sqrt{3}$		B $\frac{1}{2} \times 20$		B $A = \frac{1}{2}, B = -\frac{1}{2}$		D All choices are correct
19		A 0		D $\cos 0^\circ$		A Natural		C 3
20		B $\pi/6$		A $4 \sin 60^\circ \cos 20^\circ$		B 65		A $k^4 A $
Cross Check	A B C D		A B C D		A B C D		A B C D	
Total	5645		5645		5645		5645	

سرٹیفکیٹ بائیں صحیح سوالیہ طرح امارت گلاب Key

ہم نے نمونہ Math پرچہ I I گروپ I انٹر میڈیٹ پہلا سالانہ امتحان 2025 کا سوالیہ پرچہ ان کی ذمہ داری (Subjective & Objective) کو مدنظر عین چیک کر لیا ہے، یہ پرچہ Syllabus کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کسی قسم کی کوئی غلطی نہ ہے۔ ہم نے سوالیہ پرچہ کا اردو اور انگریزی Version بھی چیک کر لیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پرچہ کی ہر قسم کی Key (MCQs) کی بہت تصدیق کی جاتی ہے کہ اس میں بھی کسی قسم کی کوئی غلطی نہ ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات وصول کر کے ان کا بغور مطالعہ کر لیا ہے اور ان کی روشنی میں Key بنائی ہے۔ نیز سب ایگزامینرز کیلئے تفصیلی مارکنگ ہدایات / مارکنگ سکیم / Rubrics بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: 30-5-25

S.#	Name	Designation	Institution	Mobile No	Signature
1	M. Yasin	Assoc. Prof.	G.G College Bhalwal	03467934343	
2	HAG NAQAZ	SSS	G.H.S.S Lar Multan	03007187736	
3	M. Anif	A.D	G.G College of Science Multan	0300-8682996	
4					
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تم نے جو چیز (انشائیہ + سرورقشی) "Key" اور ہدایات کے حوالے سے مکمل طور پر پسلی کر لی ہے۔ کسی قسم کی کوئی غلطی نہ ہے۔					
Re-Checked By					
1	M. Adnan Anwar	A.P	G.W.H.I.S college	03047060319	Adnan
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BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN
OBJECTIVE KEY FOR INTERMEDIATE 1st ANNUAL EXAMINATION, 2025

Name of Subject: Math - I Group II

Q. Nos	Paper Code 2192	Correct Answer	Paper Code 2194	Correct Answer	Paper Code 2196	Correct Answer	Paper Code 2198	Correct Answer
1	C	$a=b \wedge b=c \Rightarrow a=c$	A	1	C	$2\cos\theta$	D	$-\pi/4$
2	B	$4/3$	B	Proper	D	$\pi/2$	A	$\pi/6$
3	C	B	C	$\pm \sqrt{xy}$	C	$\cos \frac{\alpha}{2}$	C	$a=b \wedge b=c \Rightarrow a=c$
4	D	12	A	11	B	R	B	$1/3^2$
5	B	Scalar matrix	D	120	D	$-\pi/4$	C	B
6	D	$-b/a$	D	9	A	$\pi/6$	D	12
7	A	1	A	$1/2$	C	$a=b \wedge b=c \Rightarrow a=c$	B	Scalar matrix
8	B	Proper	A	$\sec\theta$	B	$\frac{1}{3}i$	D	$-b/a$
9	C	$\pm \sqrt{xy}$	C	$2\cos^2\theta$	C	B	A	1
10	A	11	D	$\pi/2$	D	12	B	Proper
11	D	120	C	$\cos \alpha/2$	B	Scalar matrix	C	$\pm \sqrt{xy}$
12	D	9	B	R	D	$-b/a$	A	11
13	A	$1/2$	D	$-\pi/4$	A	1	D	120
14	A	$\sec\theta$	A	$\pi/6$	B	Proper	D	9
15	C	$2\cos^2\theta$	C	$a=b \wedge b=c \Rightarrow a=c$	C	$\pm \sqrt{xy}$	A	$1/2$
16	D	$\pi/2$	B	$\frac{1}{3}i$	A	11	A	$\sec\theta$
17	C	$\cos \alpha/2$	C	B	D	120	C	$2\cos^2\theta$
18	B	R	D	12	D	9	D	$\pi/2$
19	D	$-\pi/4$	B	Scalar matrix	A	$1/2$	C	$\cos \frac{\alpha}{2}$
20	A	$\pi/6$	D	$-b/a$	A	$\sec\theta$	B	R
Cross Check	A B C D		A B C D		A B C D		A B C D	
Total	5456		5456		5456		5456	

نہایت بااحتیاط سے استعمال کریں

انٹرمیڈیٹ پہلا سالانہ امتحان 2025 کا Math گروپ II کی I قسم کی کوئی غلطی نہ ہے۔

یہ جوابی کلید (Key) صرف معلوماتی مقاصد کے لیے ہے۔ اس میں کوئی قسم کی غلطی نہ ہے۔ مزید یہ کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ ہدایات (Rubrics) کو مدنظر رکھا ہے۔ نیز سب امتیازیں دیکھنے کیلئے تفصیلی مارکنگ ہدایات / مارکنگ سکیم (Rubrics) بھی تیار کر دی گئی ہیں۔

Prepared & Checked By:

Dated: 30-5-25

S.#	Name	Designation	Institution	Mobile No.	Signature
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Re-Checked By: M. Adnan Anwar A.P G.O.G. College of Science Mullan 03047060319 Ahmad

1	M. Adnan Anwar	A.P	G.O.G. College of Science Mullan	03047060319	Ahmad
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INTERMEDIATE PART-I (11 th Class)		2025 (1 st -A)	Roll No:
MATHEMATICS PAPER-I GROUP-I			
TIME ALLOWED: 2.30 Hours		SUBJECTIVE	MAXIMUM MARKS: 80
NOTE: Write same question number and its parts number on answer book, as given in the question paper.			
SECTION-I			
2. Attempt any eight parts.			8 × 2 = 16
(i)	Find the multiplicative inverse of (1, 0).	(ii)	Show that $\forall z_1, z_2 \in \mathbb{C}, \overline{z_1 \cdot z_2} = \overline{z_1} \cdot \overline{z_2}$
(iii)	Give any two properties of binary operation $\times$.	(iv)	Define Groupoid and give an example.
(v)	If $A = \begin{bmatrix} 1 & 2 \\ a & b \end{bmatrix}$ and $A^2 = \begin{bmatrix} 0 & 0 \\ 0 & 0 \end{bmatrix}$ then find the values of a and b .	(vi)	Define cofactor of an element.
(vii)	Without expansion, verify that $\begin{vmatrix} \alpha & \beta + \gamma & 1 \\ \beta & \gamma + \alpha & 1 \\ \gamma & \alpha + \beta & 1 \end{vmatrix} = 0$	(viii)	Define Skew-symmetric matrix.
		(ix)	Give the names of methods for finding the solution of quadratic equation.
		(x)	Find three cube roots of unity.
(xi)	State Remainder theorem.	(xii)	Define Synthetic division.
3. Attempt any eight parts.			8 × 2 = 16
(i)	Define improper fraction with an example.	(ii)	Resolve into partial fraction of $\frac{1}{x^2 - 1}$
(iii)	Write only partial fraction form of $\frac{2x^4 - 3x^3 - 4x}{(x^3 + 2)^2 (x + 1)^2}$	(iv)	Find a_7 in the sequence 2, 6, 11, 17,
(v)	Which term of A.P 5, 2, -1, is -85?	(vi)	Find A.M between $1 - x + x^2$ and $1 + x + x^2$
(vii)	Find the 5 th term of G.P 3, 6, 12	(viii)	Evaluate ${}^{16}P_4$
(ix)	How many arrangements of the letters of MATHEMATICS, taken all the worlds together?		
(x)	Find n if ${}^nC_5 = {}^nC_4$		
(xi)	Find fifth term in the expansion of $\left(\frac{3}{2}x - \frac{1}{3x}\right)^{11}$	(xii)	Expand upto three terms of $(4 - 3x)^{1/2}$
4. Attempt any nine parts.			9 × 2 = 18
(i)	Convert 21.256° to $D^\circ M' S''$ form.		
(ii)	What is the length of the arc intercepted on a circle of radius 14 cms by the arms of a central angle of 45° ?		
(iii)	Prove that $\frac{\sin \theta}{1 + \cos \theta} + \cot \theta = \operatorname{cosec} \theta$	(iv)	Define allied angles.
(v)	If α, β, γ are angles of a triangle ABC , then prove that $\cos\left(\frac{\alpha + \beta}{2}\right) = \sin \frac{\gamma}{2}$		
(vi)	Prove that $1 + \tan \alpha \cdot \tan 2\alpha = \sec 2\alpha$	(vii)	Find the period of $\sin x$.
(viii)	A kite flying at a height of 67.2m is attached to a fully stretched string inclined at an angle of 55° to the horizontal. Find the length of the string.		
(ix)	State sine law of triangle.	(x)	Find the side a in a triangle ABC in which $b = 95, c = 34, \alpha = 52^\circ$
(xi)	Show that $r_2 = S \cdot \tan \frac{\beta}{2}$	(xii)	Show that $\cos^{-1}(-x) = \pi - \cos^{-1} x$
(xiii)	Find the general solution of the equation $\sin x + \cos x = 0$		
SECTION-II			
NOTE: Attempt any three questions.			3 × 10 = 30
5.(a)	Find the inverse of $A = \begin{bmatrix} 2 & 1 & 0 \\ 1 & 1 & 0 \\ 2 & -3 & 5 \end{bmatrix}$	(b)	If α, β are the roots of $5x^2 - x - 2 = 0$, form the equation whose roots are $\frac{3}{\alpha}$ and $\frac{3}{\beta}$
6.(a)	Resolve $\frac{x^2 + 1}{x^3 + 1}$ into partial fraction.	(b)	Find "n" so that $\frac{a^n + b^n}{a^{n-1} + b^{n-1}}$ may be A.M between a and b .
7.(a)	There are 10 girls and 20 boys in a class. Half of the boys and half of the girls have blue eyes. Find the probability that one student chosen as monitor in either a boy or has blue eyes.		
(b)	Prove by mathematical induction $1^2 + 3^2 + 5^2 + \dots + (2n-1)^2 = n(4n^2 - 1)$		
8.(a)	If $\tan \theta = \frac{8}{15}$ and the terminal arm of the angle is in III quadrant, find the values of the other trigonometric functions of θ .	(b)	Prove the identity $\frac{\sqrt{1 + \sin \alpha}}{\sqrt{1 - \sin \alpha}} = \frac{\sin \frac{\alpha}{2} + \cos \frac{\alpha}{2}}{\sin \frac{\alpha}{2} - \cos \frac{\alpha}{2}}$
9.(a)	Prove $r_1 + r_2 + r_3 - r = 4R$	(b)	Prove that $\sin^{-1} \frac{1}{\sqrt{5}} + \cot^{-1} 3 = \frac{\pi}{4}$

INTERMEDIATE PART-I (11 th Class)		2025 (1 st -A)	Roll No: _____
MATHEMATICS PAPER-I GROUP-II			
TIME ALLOWED: 2.30 Hours		SUBJECTIVE	MAXIMUM MARKS: 80
NOTE: Write same question number and its parts number on answer book, as given in the question paper.			
SECTION-I			
2. Attempt any eight parts.			8 × 2 = 16
(i)	Find the closure property w.r.t addition of $\{1, -1\}$	(ii)	Factorize $9a^2 + 16b^2$
(iii)	Write two proper subsets of $\{a, b, c\}$	(iv)	Construct truth table of $(p \wedge \sim p) \rightarrow q$
(v)	If $A = \begin{bmatrix} 1 & -1 \\ a & b \end{bmatrix}$ and $A^2 = \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ find the value of a and b .	(vi)	Define identity matrix.
(vii)	If A is a square matrix of order 3 then show that $ kA = k^3 A $		
(viii)	If $\begin{bmatrix} 1 & 2 & 0 \\ 3 & 2 & -1 \\ -1 & 3 & 2 \end{bmatrix}$ show that $A + A'$ is symmetric.	(ix)	Convert into quadratic equation $3^{2x-1} - 12.3^x + 81 = 0$
(x)	The sum of a positive number and its reciprocal is $\frac{26}{5}$. Find the number.		
(xi)	Find roots of the equation by using quadratic formula $5x^2 - 13x + 6 = 0$	(xii)	Define Reciprocal equation.
3. Attempt any eight parts.			8 × 2 = 16
(i)	Resolve $\frac{x^2 + 1}{(x-1)(x+1)}$ into partial fraction.	(ii)	If $\frac{x^2 + 15}{(x-1)(x^2 + 2x + 5)} = \frac{A}{x-1} + \frac{B+Cx}{x^2 + 2x + 5}$ and $A = 2$ find values of B and C
(iii)	Resolve $\frac{7x+25}{(x+3)(x+4)}$ into partial fraction.	(iv)	Find G.M. between $-2i$ and $8i$.
(v)	If a, b, c and d are in G.P prove that $a-b, b-c, c-d$ are in G.P.	(vi)	If $\frac{1}{a}, \frac{1}{b}$ and $\frac{1}{c}$ are in A.P show that $b = \frac{2ac}{a+c}$
(vii)	Find the sum of 15 terms of geometric sequence $1, \frac{1}{3}, \frac{1}{9}, \dots$	(viii)	Prove that ${}^nC_r = {}^nC_{n-r}$
(ix)	State additive and multiplicative laws of probability.		
(x)	How many signals can be given by 6 flags of different colours when any number of flags can be used at a time?		
(xi)	Check the validity of $\frac{1}{3} + \frac{1}{3^2} + \dots + \frac{1}{3^n} = \frac{1}{2} \left(1 - \frac{1}{3^n} \right)$ for $n = 3, 4$	(xii)	Find 6 th term in the expansion of $\left(x^2 - \frac{3}{2x} \right)^{10}$
4. Attempt any nine parts.			9 × 2 = 18
(i)	Prove that: $\cos \theta + \tan \theta \sin \theta = \sec \theta$	(ii)	Verify: $\sin 2\theta = 2 \sin \theta \cos \theta$, when $\theta = 45^\circ$
(iii)	Convert $\frac{11\pi}{27}$ into measure of sexagesimal system.	(iv)	If α, β and γ are the angles of a triangle ABC , then prove that $\tan(\alpha + \beta) + \tan \gamma = 0$
(v)	Prove that: $\tan\left(\frac{\pi}{4} - \theta\right) + \tan\left(\frac{3\pi}{4} + \theta\right) = 0$	(vi)	Show that $\sin 3\alpha = 3 \sin \alpha - 4 \sin^3 \alpha$
(vii)	Prove that $r = (s-a) \tan \frac{\alpha}{2}$	(vii)	Find the period of $\operatorname{cosec} 10x$
(x)	Show that $r_2 = s \tan \frac{\beta}{2}$	(ix)	Prove that $R = \frac{abc}{4\Delta}$
(xii)	Show that $\cos^{-1} \frac{12}{13} = \sin^{-1} \frac{5}{13}$	(xi)	In $\triangle ABC$, $a = 7, b = 3, c = 5$. Find α
		(xiii)	Define Trigonometric Equations. Give one example.
SECTION-II			
NOTE: Attempt any three questions.			3 × 10 = 30
5.(a)	Show that $\begin{vmatrix} b+c & a & a^2 \\ c+a & b & b^2 \\ a+b & c & c^2 \end{vmatrix} = (a+b+c)(a-b)(b-c)(c-a)$	(b)	Show that the roots of $(mx+c)^2 = 4ax$ will be equal, if $c = \frac{a}{m}$; $m \neq 0$
6.(a)	Resolve $\frac{9}{(x+2)^2(x-1)}$ into partial fractions.	(b)	The sum of an infinite geometric series is 9 and the sum of the squares of its terms is $\frac{81}{5}$. Find the series.
7.(a)	Find the value of n and r when ${}^nC_r = 35$ and ${}^nP_r = 210$		
(b)	Use binomial theorem to prove that $1 + \frac{1}{4} + \frac{1.3}{4.8} + \frac{1.3.5}{4.8.12} + \dots = \sqrt{2}$		
8.(a)	Find the values of all trigonometric functions for $\frac{-71\pi}{6}$		
(b)	Reduce $\cos^4 \theta$ to an expression involving only function of multiples of θ , raised to the first power.		
9.(a)	Prove that: $r_1 + r_2 + r_3 - r = 4R$	(b)	Prove $\sin^{-1} \frac{77}{85} - \sin^{-1} \frac{3}{5} = \cos^{-1} \frac{15}{17}$

Paper Code Number: 2191		2025 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No: _____	
MATHEMATICS PAPER-I GROUP-I					
TIME ALLOWED: 30 Minutes		OBJECTIVE		MAXIMUM MARKS: 20	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	If p is a prime number, then $\sqrt{p}$ is a _____ number.	Irrational	Rational	Prime	Whole
2	$(-i)^{17}$ is equal to:	i	$-i$	1	-1
3	The set of natural numbers is not a group under:	Addition	Multiplication	Subtraction	All the choices are correct
4	The rank of the matrix $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ is:	0	1	3	2
5	If A is a square matrix of order 4×4 then $ kA =$ _____	$k^4 A $	$k^3 A $	$k A ^4$	$k A ^3$
6	A quadratic equation in x , $ax^2 + bx + c = 0$ with $a, b, c \in \mathbb{R}$ becomes linear if $a =$ _____	3	2	1	0
7	Three cube roots of 8 are:	$3, 3\omega, 3\omega^2$	$-3, -3\omega, -3\omega^2$	$2, 2\omega, 2\omega^2$	$-2, -2\omega, -2\omega^2$
8	If $1 = A(x + 1) + B(x - 1)$ then:	$A = -\frac{1}{2},$ $B = -\frac{1}{2}$	$A = \frac{1}{2},$ $B = -\frac{1}{2}$	$A = -\frac{1}{2},$ $B = \frac{1}{2}$	$A = \frac{1}{2},$ $B = \frac{1}{2}$
9	A sequence is a function whose domain is a subset of the set of _____ numbers.	Natural	Whole	Rational	Irrational
10	The sum upto 10 th term of the A.P, $-7 + (-4) + (-1) + \dots$ is:	64	65	66	67
11	The factorial notation was introduced by Christian Kramp in _____.	1806 AD	1807 AD	1808 AD	1809 AD
12	The number of terms in the expansion of $(a + x)^{11}$ are:	9	10	11	12
13	The area of the sector of circular region with radius r is:	$\frac{1}{2}r\theta$	$\frac{1}{2}r^2\theta$	$r^2\theta$	$r\theta$
14	$\sin 98^\circ =$ _____	$-\sin 8^\circ$	$\sin 8^\circ$	$-\cos 8^\circ$	$\cos 8^\circ$
15	The value of $\frac{\tan 4\theta}{\cos 4\theta}$ is:	$\frac{4 \sin \theta \cos \theta}{\cos 2\theta}$	$\frac{8 \sin \theta \cos 2\theta}{\cos 2\theta}$	$\frac{2 \sin \theta \cos \theta}{\cos 2\theta}$	$\frac{2 \cos \theta}{\cos 2\theta}$
16	The period of $\sin 3x$ is:	$\frac{\pi}{3}$	$\frac{2\pi}{3}$	$\frac{3\pi}{2}$	3π
17	The greatest side of the triangle will be in front of the _____.	Right angle	Smallest angle	Greatest angle	Acute angle
18	If in triangle $\triangle ABC$ $\alpha = 30^\circ$, $\beta = 60^\circ$ and $a = 3$ then $b =$ _____	3	$\sqrt{3}$	$2\sqrt{3}$	$3\sqrt{3}$
19	$\sin^{-1}(1) + \sin^{-1}(-1) =$ _____	0	$\frac{\pi}{2}$	$\frac{3\pi}{2}$	$\frac{\pi}{4}$
20	The reference angle of $\sin x = -\frac{1}{2}$ is:	$\frac{\pi}{4}$	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$

Paper Code Number: 2193		2025 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No:	
MATHEMATICS PAPER-I GROUP-I					
TIME ALLOWED: 30 Minutes		OBJECTIVE		MAXIMUM MARKS: 20	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	The period of $\sin 3x$ is:	$\frac{\pi}{3}$	$\frac{2\pi}{3}$	$\frac{3\pi}{2}$	3π
2	The greatest side of the triangle will be in front of the _____.	Right angle	Smallest angle	Greatest angle	Acute angle
3	If in triangle $\triangle ABC$ $\alpha = 30^\circ$, $\beta = 60^\circ$ and $a = 3$ then $b =$ _____	3	$\sqrt{3}$	$2\sqrt{3}$	$3\sqrt{3}$
4	$\sin^{-1}(1) + \sin^{-1}(-1) =$ _____	0	$\frac{\pi}{2}$	$\frac{3\pi}{2}$	$\frac{\pi}{4}$
5	The reference angle of $\sin x = -\frac{1}{2}$ is:	$\frac{\pi}{4}$	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
6	If p is a prime number, then $\sqrt{p}$ is a _____ number.	Irrational	Rational	Prime	Whole
7	$(-i)^{17}$ is equal to:	i	$-i$	1	-1
8	The set of natural numbers is not a group under:	Addition	Multiplication	Subtraction	All the choices are correct
9	The rank of the matrix $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ is:	0	1	3	2
10	If A is a square matrix of order 4×4 then $ kA =$ _____	$k^4 A $	$k^3 A $	$k A ^4$	$k A ^3$
11	A quadratic equation in x , $ax^2 + bx + c = 0$ with $a, b, c \in \mathbb{R}$ becomes linear if $a =$ _____	3	2	1	0
12	Three cube roots of 8 are:	$3, 3\omega, 3\omega^2$	$-3, -3\omega, -3\omega^2$	$2, 2\omega, 2\omega^2$	$-2, -2\omega, -2\omega^2$
13	If $1 = A(x+1) + B(x-1)$ then:	$A = -\frac{1}{2},$ $B = -\frac{1}{2}$	$A = \frac{1}{2},$ $B = -\frac{1}{2}$	$A = -\frac{1}{2},$ $B = \frac{1}{2}$	$A = \frac{1}{2},$ $B = \frac{1}{2}$
14	A sequence is a function whose domain is a subset of the set of _____ numbers.	Natural	Whole	Rational	Irrational
15	The sum upto 10 th term of the A.P, $-7 + (-4) + (-1) + \dots$ is:	64	65	66	67
16	The factorial notation was introduced by Christian Kramp in _____.	1806 AD	1807 AD	1808 AD	1809 AD
17	The number of terms in the expansion of $(a+x)^{11}$ are:	9	10	11	12
18	The area of the sector of circular region with radius r is:	$\frac{1}{2}r\theta$	$\frac{1}{2}r^2\theta$	$r^2\theta$	$r\theta$
19	$\sin 98^\circ =$ _____	$-\sin 8^\circ$	$\sin 8^\circ$	$-\cos 8^\circ$	$\cos 8^\circ$
20	The value of $\tan 4\theta \cos 4\theta$ is:	$4 \sin \theta \cos \theta \cos 2\theta$	$8 \sin \theta \cos 2\theta$	$2 \sin \theta \cos \theta \cos 2\theta$	$2 \cos \theta \cos 2\theta$

Paper Code Number: 2195		2025 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No: _____	
MATHEMATICS PAPER-I GROUP-I					
TIME ALLOWED: 30 Minutes		OBJECTIVE		MAXIMUM MARKS: 20	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	The factorial notation was introduced by Christian Kramp in _____.	1806 AD	1807 AD	1808 AD	1809 AD
2	The number of terms in the expansion of $(a + x)^{11}$ are:	9	10	11	12
3	The area of the sector of circular region with radius r is:	$\frac{1}{2}r\theta$	$\frac{1}{2}r^2\theta$	$r^2\theta$	$r\theta$
4	$\sin 98^\circ =$ _____	$-\sin 8^\circ$	$\sin 8^\circ$	$-\cos 8^\circ$	$\cos 8^\circ$
5	The value of $\tan 4\theta \cos 4\theta$ is:	$4 \sin \theta \cos \theta \cos 2\theta$	$8 \sin \theta \cos 2\theta$	$2 \sin \theta \cos \theta \cos 2\theta$	$2 \cos \theta \cos 2\theta$
6	The period of $\sin 3x$ is:	$\frac{\pi}{3}$	$\frac{2\pi}{3}$	$\frac{3\pi}{2}$	3π
7	The greatest side of the triangle will be in front of the _____.	Right angle	Smallest angle	Greatest angle	Acute angle
8	If in triangle $\triangle ABC$ $\alpha = 30^\circ$, $\beta = 60^\circ$ and $a = 3$ then $b =$ _____	3	$\sqrt{3}$	$2\sqrt{3}$	$3\sqrt{3}$
9	$\sin^{-1}(1) + \sin^{-1}(-1) =$ _____	0	$\frac{\pi}{2}$	$\frac{3\pi}{2}$	$\frac{\pi}{4}$
10	The reference angle of $\sin x = -\frac{1}{2}$ is:	$\frac{\pi}{4}$	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
11	If p is a prime number, then $\sqrt{p}$ is a _____ number.	Irrational	Rational	Prime	Whole
12	$(-i)^{17}$ is equal to:	i	$-i$	1	-1
13	The set of natural numbers is not a group under:	Addition	Multiplication	Subtraction	All the choices are correct
14	The rank of the matrix $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ is:	0	1	3	2
15	If A is a square matrix of order 4×4 then $ kA =$ _____	$k^4 A $	$k^3 A $	$k A ^4$	$k A ^3$
16	A quadratic equation in x , $ax^2 + bx + c = 0$ with $a, b, c \in \mathbb{R}$ becomes linear if $a =$ _____	3	2	1	0
17	Three cube roots of 8 are:	$3, 3\omega, 3\omega^2$	$-3, -3\omega, -3\omega^2$	$2, 2\omega, 2\omega^2$	$-2, -2\omega, -2\omega^2$
18	If $1 = A(x + 1) + B(x - 1)$ then:	$A = -\frac{1}{2},$ $B = -\frac{1}{2}$	$A = \frac{1}{2},$ $B = -\frac{1}{2}$	$A = -\frac{1}{2},$ $B = \frac{1}{2}$	$A = \frac{1}{2},$ $B = \frac{1}{2}$
19	A sequence is a function whose domain is a subset of the set of _____ numbers.	Natural	Whole	Rational	Irrational
20	The sum upto 10 th term of the A.P, $-7 + (-4) + (-1) + \dots$ is:	64	65	66	67

Paper Code Number: 2197		2025 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No:	
MATHEMATICS PAPER-I GROUP-I					
TIME ALLOWED: 30 Minutes		OBJECTIVE		MAXIMUM MARKS: 20	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	A quadratic equation in x , $ax^2 + bx + c = 0$ with $a, b, c \in \mathbb{R}$ becomes linear if $a =$ _____	3	2	1	0
2	Three cube roots of 8 are:	$3, 3\omega, 3\omega^2$	$-3, -3\omega, -3\omega^2$	$2, 2\omega, 2\omega^2$	$-2, -2\omega, -2\omega^2$
3	If $1 = A(x+1) + B(x-1)$ then:	$A = -\frac{1}{2},$ $B = -\frac{1}{2}$	$A = \frac{1}{2},$ $B = -\frac{1}{2}$	$A = -\frac{1}{2},$ $B = \frac{1}{2}$	$A = \frac{1}{2},$ $B = \frac{1}{2}$
4	A sequence is a function whose domain is a subset of the set of _____ numbers.	Natural	Whole	Rational	Irrational
5	The sum upto 10 th term of the A.P, $-7 + (-4) + (-1) + \dots$ is:	64	65	66	67
6	The factorial notation was introduced by Christian Kramp in _____.	1806 AD	1807 AD	1808 AD	1809 AD
7	The number of terms in the expansion of $(a+x)^{11}$ are:	9	10	11	12
8	The area of the sector of circular region with radius r is:	$\frac{1}{2}r\theta$	$\frac{1}{2}r^2\theta$	$r^2\theta$	$r\theta$
9	$\sin 98^\circ =$ _____	$-\sin 8^\circ$	$\sin 8^\circ$	$-\cos 8^\circ$	$\cos 8^\circ$
10	The value of $\tan 4\theta \cos 4\theta$ is:	$\frac{4 \sin \theta \cos \theta}{\cos 2\theta}$	$\frac{8 \sin \theta \cos 2\theta}{\cos 2\theta}$	$\frac{2 \sin \theta \cos \theta}{\cos 2\theta}$	$\frac{2 \cos \theta}{\cos 2\theta}$
11	The period of $\sin 3x$ is:	$\frac{\pi}{3}$	$\frac{2\pi}{3}$	$\frac{3\pi}{2}$	3π
12	The greatest side of the triangle will be in front of the _____.	Right angle	Smallest angle	Greatest angle	Acute angle
13	If in triangle $\triangle ABC$ $\alpha = 30^\circ$, $\beta = 60^\circ$ and $a = 3$ then $b =$ _____	3	$\sqrt{3}$	$2\sqrt{3}$	$3\sqrt{3}$
14	$\sin^{-1}(1) + \sin^{-1}(-1) =$ _____	0	$\frac{\pi}{2}$	$\frac{3\pi}{2}$	$\frac{\pi}{4}$
15	The reference angle of $\sin x = -\frac{1}{2}$ is:	$\frac{\pi}{4}$	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
16	If p is a prime number, then $\sqrt{p}$ is a _____ number.	Irrational	Rational	Prime	Whole
17	$(-i)^{17}$ is equal to:	i	$-i$	1	-1
18	The set of natural numbers is not a group under:	Addition	Multiplication	Subtraction	All the choices are correct
19	The rank of the matrix $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$ is:	0	1	3	2
20	If A is a square matrix of order 4×4 then $ kA =$ _____	$k^4 A $	$k^3 A $	$k A ^4$	$k A ^3$

Paper Code Number: 2192		2025 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No: _____	
MATHEMATICS PAPER-I GROUP-II					
TIME ALLOWED: 30 Minutes		OBJECTIVE		MAXIMUM MARKS: 20	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	The transitive property of IR is _____.	$a = a$	$a = b \Rightarrow b = a$	$a = b \wedge b = c \Rightarrow a = c$	$a = b \Rightarrow a + c = b + c$
2	The multiplicative inverse of $-3i$ is _____.	$3i$	$\frac{1}{3}i$	$-\frac{1}{3}i$	$-3i$
3	If $A \subseteq B$, then $A \cup B$ is _____.	A	ϕ	B	X
4	Let $A = [a_{ij}]_{3 \times 4}$, then number of elements of A is _____.	3	4	7	12
5	Let $A = \begin{bmatrix} 5 & 0 \\ 0 & 5 \end{bmatrix}$, then A is called _____.	Identity matrix	Scalar matrix	Null matrix	Rectangular matrix
6	The sum of the roots $ax^2 + bx + c = 0$ is _____.	$-\frac{c}{a}$	$\frac{b}{a}$	$\frac{c}{a}$	$-\frac{b}{a}$
7	If ω is cube root of unity, then ω^9 is _____.	1	0	ω	ω^2
8	The fraction $\frac{(x-1)^2}{(x+1)^3}$ is called _____.	Identity	Proper	Improper	Irrational
9	The G.M between x and y is _____.	xy	$\frac{x+y}{2}$	$\pm \sqrt{xy}$	$x+y$
10	If $a_n = 2n+1$, then $a_5 =$ _____.	11	10	8	12
11	The value of $ 5 $ is _____.	5	0	140	120
12	The middle term of $(a+b)^{16}$ is _____.	11	6	8	9
13	$\cos(-60^\circ)$ is _____.	$\frac{1}{2}$	$-\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{2}$
14	$\operatorname{cosec}\left(\frac{\pi}{2} + \theta\right) =$ _____	$\sec \theta$	$-\sec \theta$	$\operatorname{cosec} \theta$	$-\operatorname{cosec} \theta$
15	$1 + \cos 2\theta =$ _____	$2 \sin^2 \theta$	$2 \sin^2 \frac{\theta}{2}$	$2 \cos^2 \theta$	$2 \cos^2 \frac{\theta}{2}$
16	Period of $\tan 2x$ is _____.	π	2π	$\frac{\pi}{4}$	$\frac{\pi}{2}$
17	$\sqrt{\frac{s(s-a)}{bc}} =$ _____	$\sin \frac{\alpha}{2}$	$\sin \frac{\beta}{2}$	$\cos \frac{\alpha}{2}$	$\cos \frac{\beta}{2}$
18	With usual notation $\frac{abc}{4\Delta} =$ _____	r	R	$2r$	r_1
19	$\tan^{-1}(-1) =$ _____	$\frac{\pi}{6}$	$\frac{\pi}{2}$	$-\pi$	$-\frac{\pi}{4}$
20	The solution of $\sin x - \frac{1}{2} = 0$ is _____.	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{4}$	$\frac{\pi}{2}$

Paper Code Number: 2194		2025 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No: _____	
MATHEMATICS PAPER-I GROUP-II					
TIME ALLOWED: 30 Minutes		OBJECTIVE		MAXIMUM MARKS: 20	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	If ω is cube root of unity, then ω^9 is _____.	1	0	ω	ω^2
2	The fraction $\frac{(x-1)^2}{(x+1)^3}$ is called _____.	Identity	Proper	Improper	Irrational
3	The G.M between x and y is _____.	xy	$\frac{x+y}{2}$	$\pm\sqrt{xy}$	$x+y$
4	If $a_n = 2n+1$, then $a_5 =$ _____	11	10	8	12
5	The value of $ 5 $ is _____.	5	0	140	120
6	The middle term of $(a+b)^{16}$ is _____.	11	6	8	9
7	$\cos(-60^\circ)$ is _____.	$\frac{1}{2}$	$-\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{2}$
8	$\operatorname{cosec}\left(\frac{\pi}{2}+\theta\right)=$ _____	$\sec \theta$	$-\sec \theta$	$\operatorname{cosec} \theta$	$-\operatorname{cosec} \theta$
9	$1+\cos 2 \theta=$ _____	$2 \sin ^2 \theta$	$2 \sin ^2 \frac{\theta}{2}$	$2 \cos ^2 \theta$	$2 \cos ^2 \frac{\theta}{2}$
10	Period of $\tan 2 x$ is _____.	π	2π	$\frac{\pi}{4}$	$\frac{\pi}{2}$
11	$\sqrt{\frac{s(s-a)}{b c}}=$ _____	$\sin \frac{\alpha}{2}$	$\sin \frac{\beta}{2}$	$\cos \frac{\alpha}{2}$	$\cos \frac{\beta}{2}$
12	With usual notation $\frac{a b c}{4 \Delta}=$ _____	r	R	$2 r$	r_1
13	$\tan ^{-1}(-1)=$ _____	$\frac{\pi}{6}$	$\frac{\pi}{2}$	$-\pi$	$-\frac{\pi}{4}$
14	The solution of $\sin x-\frac{1}{2}=0$ is _____.	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{4}$	$\frac{\pi}{2}$
15	The transitive property of $\mathbb{R}$ is _____.	$a=a$	$a=b \Rightarrow b=a$	$a=b \wedge b=c \Rightarrow a=c$	$a=b \Rightarrow a+c=b+c$
16	The multiplicative inverse of $-3 i$ is _____.	$3 i$	$\frac{1}{3} i$	$-\frac{1}{3} i$	$-3 i$
17	If $A \subseteq B$, then $A \cup B$ is _____.	A	ϕ	B	X
18	Let $A=\left[a_{i j}\right]_{3 \times 4}$, then number of elements of A is _____.	3	4	7	12
19	Let $A=\left[\begin{array}{cc} 5 & 0 \\ 0 & 5 \end{array}\right]$, then A is called _____.	Identity matrix	Scalar matrix	Null matrix	Rectangular matrix
20	The sum of the roots $a x^2+b x+c=0$ is _____.	$-\frac{c}{a}$	$\frac{b}{a}$	$\frac{c}{a}$	$-\frac{b}{a}$

Paper Code Number: 2196		2025 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No: _____	
MATHEMATICS PAPER-I GROUP-II					
TIME ALLOWED: 30 Minutes		OBJECTIVE		MAXIMUM MARKS: 20	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	$1 + \cos 2\theta =$ _____	$2 \sin^2 \theta$	$2 \sin^2 \frac{\theta}{2}$	$2 \cos^2 \theta$	$2 \cos^2 \frac{\theta}{2}$
2	Period of $\tan 2x$ is _____.	π	2π	$\frac{\pi}{4}$	$\frac{\pi}{2}$
3	$\sqrt{\frac{s(s-a)}{bc}} =$ _____	$\sin \frac{\alpha}{2}$	$\sin \frac{\beta}{2}$	$\cos \frac{\alpha}{2}$	$\cos \frac{\beta}{2}$
4	With usual notation $\frac{abc}{4\Delta} =$ _____	r	R	$2r$	r_1
5	$\tan^{-1}(-1) =$ _____	$\frac{\pi}{6}$	$\frac{\pi}{2}$	$-\pi$	$-\frac{\pi}{4}$
6	The solution of $\sin x - \frac{1}{2} = 0$ is _____.	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{4}$	$\frac{\pi}{2}$
7	The transitive property of IR is _____.	$a = a$	$a = b \Rightarrow b = a$	$a = b \wedge b = c \Rightarrow a = c$	$a = b \Rightarrow a + c = b + c$
8	The multiplicative inverse of $-3i$ is _____.	$3i$	$\frac{1}{3}i$	$-\frac{1}{3}i$	$-3i$
9	If $A \subseteq B$, then $A \cup B$ is _____	A	ϕ	B	X
10	Let $A = [a_{ij}]_{3 \times 4}$, then number of elements of A is _____.	3	4	7	12
11	Let $A = \begin{bmatrix} 5 & 0 \\ 0 & 5 \end{bmatrix}$, then A is called _____.	Identity matrix	Scalar matrix	Null matrix	Rectangular matrix
12	The sum of the roots $ax^2 + bx + c = 0$ is _____.	$-\frac{c}{a}$	$\frac{b}{a}$	$\frac{c}{a}$	$-\frac{b}{a}$
13	If ω is cube root of unity, then ω^9 is _____.	1	0	ω	ω^2
14	The fraction $\frac{(x-1)^2}{(x+1)^3}$ is called _____.	Identity	Proper	Improper	Irrational
15	The G.M between x and y is _____.	xy	$\frac{x+y}{2}$	$\pm \sqrt{xy}$	$x+y$
16	If $a_n = 2n+1$, then $a_5 =$ _____	11	10	8	12
17	The value of $ 5 $ is _____.	5	0	140	120
18	The middle term of $(a+b)^{16}$ is _____.	11	6	8	9
19	$\cos(-60^\circ)$ is _____.	$\frac{1}{2}$	$-\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{2}$
20	$\operatorname{cosec}\left(\frac{\pi}{2} + \theta\right) =$ _____	$\sec \theta$	$-\sec \theta$	$\operatorname{cosec} \theta$	$-\operatorname{cosec} \theta$

Paper Code Number: 2198		2025 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No: _____	
MATHEMATICS PAPER-I GROUP-II					
TIME ALLOWED: 30 Minutes		OBJECTIVE		MAXIMUM MARKS: 20	
Q.No.1	You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.				
S.#	QUESTIONS	A	B	C	D
1	$\tan^{-1}(-1) = \underline{\hspace{2cm}}$	$\frac{\pi}{6}$	$\frac{\pi}{2}$	$-\pi$	$-\frac{\pi}{4}$
2	The solution of $\sin x - \frac{1}{2} = 0$ is _____.	$\frac{\pi}{6}$	$\frac{\pi}{3}$	$\frac{\pi}{4}$	$\frac{\pi}{2}$
3	The transitive property of IR is _____.	$a = a$	$a = b \Rightarrow b = a$	$a = b \wedge b = c$ $\Rightarrow a = c$	$a = b \Rightarrow a + c$ $= b + c$
4	The multiplicative inverse of $-3i$ is _____.	$3i$	$\frac{1}{3}i$	$-\frac{1}{3}i$	$-3i$
5	If $A \subseteq B$, then $A \cup B$ is _____.	A	ϕ	B	X
6	Let $A = [a_{ij}]_{3 \times 4}$, then number of elements of A is _____.	3	4	7	12
7	Let $A = \begin{bmatrix} 5 & 0 \\ 0 & 5 \end{bmatrix}$, then A is called _____.	Identity matrix	Scalar matrix	Null matrix	Rectangular matrix
8	The sum of the roots $ax^2 + bx + c = 0$ is _____.	$-\frac{c}{a}$	$\frac{b}{a}$	$\frac{c}{a}$	$-\frac{b}{a}$
9	If ω is cube root of unity, then ω^9 is _____.	1	0	ω	ω^2
10	The fraction $\frac{(x-1)^2}{(x+1)^3}$ is called _____.	Identity	Proper	Improper	Irrational
11	The G.M between x and y is _____.	xy	$\frac{x+y}{2}$	$\pm \sqrt{xy}$	$x+y$
12	If $a_n = 2n+1$, then $a_5 =$ _____.	11	10	8	12
13	The value of $ 5 $ is _____.	5	0	140	120
14	The middle term of $(a+b)^6$ is _____.	11	6	8	9
15	$\cos(-60^\circ)$ is _____.	$\frac{1}{2}$	$-\frac{1}{2}$	$\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{3}}{2}$
16	$\operatorname{cosec}\left(\frac{\pi}{2} + \theta\right) =$ _____	$\sec \theta$	$-\sec \theta$	$\operatorname{cosec} \theta$	$-\operatorname{cosec} \theta$
17	$1 + \cos 2\theta =$ _____	$2 \sin^2 \theta$	$2 \sin^2 \frac{\theta}{2}$	$2 \cos^2 \theta$	$2 \cos^2 \frac{\theta}{2}$
18	Period of $\tan 2x$ is _____.	π	2π	$\frac{\pi}{4}$	$\frac{\pi}{2}$
19	$\sqrt{\frac{s(s-a)}{bc}} =$ _____	$\sin \frac{\alpha}{2}$	$\sin \frac{\beta}{2}$	$\cos \frac{\alpha}{2}$	$\cos \frac{\beta}{2}$
20	With usual notation $\frac{abc}{4\Delta} =$ _____	r	R	$2r$	r_1