	PM SHRI KENDRIYA VIDYALAYA DHARMAPURI MATHEMATICS (2025-26) CLASS – VI	
Name:_	Class/Sec:Date:	
Q 1.	What is the sum of 456 and 238 ?	
Q 2.	What is the difference between 500 and 275 ?	
Q 3.	What is the value of 565 ÷ 5 ?	
Q 4.	What is the value of $150 \times 50 \times 0$?	
Q 5.	What is the next number in the series: 15, 30, 45, 60,?	
Q 6.	How many sides does a rectangle have?	
Q 7.	How many vertices does a triangle have?	
Q 8.	What is the 2D shape with 4 equal sides called?	
Q 9.	What is the sum of the first five even numbers?	
Q 10.	How many minutes are there in 2 hours?	
Q 11.	What is the place value of 3 in the number 7354	
Q 12.	1 metre =centimetre	
Q 13.	A book weighs 2 Kg. How much 3 books weigh?	
Q 14.	4. A basket has 60 apples. If they are divided into 10 baskets, how many apples are in each basket?	
Q 15.	2 15. What fraction of a pizza is left if you eat 3 out of 8 slices?	
Q 16.	16. A meeting started at 9:15 AM and ended at 11:45 AM. How long did the meeting last?	



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Q 1.	Circle the bigger number. a. 1206, 1304	
	b. 9220, 9120	
Q 2.	Write the predecessor and successor of the given numbers.	
	a, 569,	
	b, 203,	

Q 3.	Write the first 4 multiples of 15		
Q 4.	. How many counting numbers are there between 38 and 65?		
Q 5.	2 5. Write the numbers that are divisible by both 5 and 10.		
	1560 3215 7234 1552 5050		
Q6.	6. Write the numeral for: 20000 + 1000 + 700 + 60 + 5 =		
Q7.	Which of the following number consists of 3 tens and 5 thousand?a) 5346b) 5364c) 3456d) 5436		
Q8.	Complete the pattern: 9, 18, 27, 36,,, 100 hundred =thousand		
Q9.			
Q10.	The simplest form of $\frac{28}{40}$ is		
Q11.	 Write the smallest 4-digit number and list all the factors. Ans: Smallest 4-digit number = Factors = 		
Q12.	Write the fraction of the shaded part for each shape:		
Q13.	Find the missing factor in the factor tree: 60 30 2 1 2 1 1 1 1 1 1 1 1 1 1		
Q14.	4. Sally walked $\frac{3}{4}$ km before lunch and $\frac{1}{4}$ km after lunch. How far did she walk in all?		

Q15.	Round off to 6759 the nearest tens.		
Q16.	Write the numeral for:		
	Eight million seventy-five thousand six hundred eighty.		
Q17.	Write the predecessor of :25999		
Q18.	Write the place value of the underlined digits in the following numbers: 287 9 60:		
Q19.	Place commas correctly and write the numerals: Seven lakh twenty thousand five hundred eighty.		
Q20.	Build the greatest and smallest 5-digit number using the digits shown in the figure. Ans: Greatest number: Smallest number:		



	PM SHRI KENDRIYA VIDYALAYA DHARMAPURI MATHEMATICS (2025-26) BRIDGE COURSE FOR CLASS – VII			
Name:	Class/Sec:Date:			
Q 1.	Fill in the blanks: (a) $(-8) + __= (+1)$ (b) $(-50) + __= 0$ (c) $(-10) - (+10) = __$			
Q 2.	Q 2. Below figure is a number line, representing integers. Observe it and locate the following points: E F G H A B C D + +8			
	a) If point D is +8, then which point is -8?			
	b) Is point G a negative integer or a positive integer?			
	c) Which point marked on this number line has the least value?			
Q 3.	Write three equivalent fractions of $\frac{2}{3}$			
Q 4.	Q 4. Simplify: (a) $10 - 12 - 3 + 12$ (b) $\frac{5}{64} - (-\frac{7}{32})$			
Q 5.	i) Write all the factors of 28. ii) Write the first five multiples of 9.			
Q6.	Neha finished colouring a picture in $\frac{7}{12}$ hour. Kiran finished colouring the same picture in $\frac{3}{4}$ hour. Who worked longer? By what fraction was it longer?			
Q7.	Write the following integers in the descending order: a) -15, 0, -2, -9, 7, 6, -5, 8 b) -154, 123, -205, -89, -74			

Q8.	Multiply: 1078 × 15			
Q9.	Write the number of integers between -26 and - 2.			
Q10.	Find the missing factor in the factor tree:			
Q11.	Compare with >, < or = sign.			
	a15 25			
	b. (-500) (-850)			
Q12.	The simplest form of $\frac{36}{48}$ is			
Q13.	 Find Prime factors of given numbers: i) 250 ii) 132 			
Q14.	. In the below figure, a line is drawn through the middle of the rectangle. Answer the following questions:			
	a) Area of the rectangle=			
	b) Area of the shaded part=			



	Write three equivalent fractions of $\frac{4}{7}$.		
Q 1.			
Q 2.Put the given fractions in the right bag: $\frac{3}{4}$, $\frac{5}{2}$, $\frac{10}{10}$, $\frac{12}{8}$, $\frac{2}{3}$, $\frac{8}{8}$ Q 2.Fraction less than 1Fraction equal to 1Fraction greater than 1			
	Subtract the sum of 2500 and 2005 from the product of 1000 and 4		
	Ans:		
Q 3.			
Q 4.	. Multiply: 3478 × 29		
0.5			
Q 5.	Solve: $122 + 361 - 287 - (-110)$		

Q6.	Amy prepared $\frac{3}{7}$ cup of chopped garlic and her mother had already prepared $\frac{1}{3}$ cup of chopped		
	garlic for making pasta. Find the total amount of chopped garlic prepared by Amy and her mother.		
	Ans:		
Q7.	Divide and find the quotient (Q) and Remainder (R): 70298 ÷ 35		
	O= R=		
Q8.	i) Write all the factors of 32:		
	ii) Write the first five multiples of 7:		

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	Find the additive inverse of:			
Q 1.	i. – 68 (iii) 0			
	ii. +13 (iv) -2001			
Q 2.	The greatest negative integer is:			
Q 3.	Write the number of integers between -36 and -12 .			
Q4.	Evaluate: 23 – 17 – 45			
Q 5.	Fill in the blanks:			
	$(a) (-4) + __= (+1)$			
	$(b)(-23) + __= 0$			
	(c)(-4) - (+4) =			
$(d) (-8) + __= (-6)$.				
Q6.	List all integers between:			
	(a) - 35 and - 30			
	(b) - 5 and 0			
Q7.	Compare with >, < or = sign.			
	a. 025			
	b. (-456) (-943)			
	c. (- 5) + (- 7) (- 5) - (- 7)			
	d. (-23) + (-6) (-17) - (-6)			

Q8. Write the following integers in the ascending order: a67, 95, -33, -601, 215	
	b. 34, -236, -16, 16, 0, -40, -71

Q9.	. Find the sum of the pairs of integers:		
	(a) -26, -34 (b) +53	3, -20	(c) +74, -50
Q10.	Q10. Compute each of the following:		
	(a) 40 + (-15) + (-20)	(b) 80 + (-20) + (-	10)
Q.11	Adjacent figure is a number line, representationi)Write integers for the pointsii)Write the integer of the pointiii)Find the integer which is theiv)Arrange the given letters in	ure is a number line, representing integers. Observe it and locate the following $\begin{array}{c} -10 & -8 & -6 \\ \hline $	
Q12.	Simplify: (<i>a</i>)(-198) + (-182) - (- 350)	(<i>b</i>)(-127) - (-186)	- 30



PM SHRI KENDRIYA VIDYALAYA DHARMAPURI

SUMMER VACATION HOLIDAY HOMEWORK

CLASS: 8

SUBJECT: MATHS

- 1. What is Natural Numbers? Write with examples.
- 2. What is Whole Numbers? Write with examples.
- 3. What is Even Numbers? Write with examples.
- 4. What is Odd Numbers? Write with examples.
- 5. What is Prime Numbers? Write with examples.
- 6. What is Composite Numbers? Write with examples.
- 7. Solve: i) $12 \div 2 \times 3 5$ ii) $100 \div 10 (3 \times 2 + 4)$ lii) $2(3 + 7) - 5^2 \div 5$ iv) $7 - 3(2^2 + 1) + 8$.
- 8. What is fraction? Write with examples.
- 9. Add: i) $\frac{51}{12} + \frac{15}{12}$ ii) $\frac{5}{12} + \frac{7}{11}$ iii) $2\frac{5}{7} + 3\frac{4}{5}$ 10. Subtract: i) $\frac{65}{19} - \frac{51}{19}$ ii) $\frac{5}{7} - \frac{6}{11}$ iii) $8\frac{3}{7} - 3\frac{5}{6}$ iii) $8\frac{3}{7} - 3\frac{5}{6}$ iii) $3\frac{2}{5} \times 3\frac{1}{7}$ 12. Multiply: i) $\frac{35}{17} \times \frac{21}{23}$ ii) $\frac{15}{17} \times \frac{16}{13}$ iii) $3\frac{2}{5} \times 3\frac{1}{7}$ iii) $3\frac{2}{5} \times 3\frac{1}{7}$ iii) $3\frac{2}{5} \times 3\frac{1}{7}$ iii) $3\frac{2}{5} \times 3\frac{1}{7}$ iii) $3\frac{2}{5} \times 4\frac{2}{5}$
- 14.Find: $\frac{2}{5} \times \left(-\frac{3}{7}\right) \frac{3}{7} \times \frac{3}{5}$

15. What is Polygon? Draw figures and write their names.

- 16.A person crosses a 600 m long street in 5 minutes. What is his speed in m per second?
- 17. Mohan crosses a 960 m long street in 8minutes. What is his speed in m per second?
- 18. Raju earns Rs16000/month. He spends $\frac{1}{4}$ of his income on food, $\frac{1}{5}$ of the remainder on house rent and $\frac{3}{10}$ of the remainder on education of children. How much money is still left with him?
- 19.A drum full of rice weights 4016 kg. If the empty drum weights 1334 kg, find the weight of rice in the drum.
- 20. The present age of Sahil's mother is three times the present age of Sahil. After 5 years their ages will add to 66 years. Find the present ages of Sahil.

PM SHRI KENDRIYA VIDYALAYA DHARMAPURI

SUMMER VACATION HOLIDAY HOMEWORK

CLASS: 9

SUBJECT: MATHS

- 1. Find six rational numbers between 3 and 4
- 2. Find six rational numbers between 3.5 and 4.5
- 3. Find six rational numbers between $\frac{5}{7}$ and $\frac{8}{9}$
- 4. Show how $\sqrt{5}$ can be represented on the number line.
- 5. Show how $\sqrt{6}$ can be represented on the number line.
- 6. Express the following in the form $\frac{p}{a}$ where p and q are integers and q \square 0.
 - i) 0.09090909......
 - ii) 1.34343434.....
 - iii) **0.47777777**.....
 - iv) 0.011111111.....
 - v) 5.345345345345.....
- 7. Find three different irrational numbers between the rational numbers $\frac{5}{7}$ and $\frac{6}{7}$
- 8. Find three different irrational numbers between the rational numbers $\frac{3}{8}$ and $\frac{5}{9}$
- Find three different irrational numbers between the rational numbers 1.34 and 2.45
- 10. Write five numbers whose decimal expansions are non-terminating non-recurring.

11.Add: i) 5(√3 + 2) + 2(3 +√3)	ii) 2(√27-4)+3(√3-5)
i	ii) 5(√3 + 2√2) + 4(√2-3√3)	iv) 2(√7-4√3)+3(√28-5√3)
12.Multiply:	i) 5√3×3√5	ii) 2√7×3√56
	iii) 2√13×3√52	iv) 8√27×3√3
13.Divide: :	i) 9√15 by 6√5	ii)2√70 by 3 √56
	iii) 6√32 by 3 √8	iv) 15√26 by 3 √52
14.Find:	i) $2^{3/4} \times 2^{1/4}$	ii) 7 ^{3/7} ×14 ^{3/7} :
	iii)16 ^{3/4} ×64 ^{1/4}	iv) 32 ^{2/5} × 8 ^{2/3}

15. Solve: (V7-V3) (V7+V3)

- 16. Solve: $(\sqrt{2}+\sqrt{3})^2 + (\sqrt{2}-\sqrt{3})^2$
- 17. Solve: (V5+V3) (V2-V7)
- 18. Write the following in decimal form and say what kind of decimal expansion each has:

i)	ii) 35 50	iii) <u>56</u> 35	iv) $\frac{170}{34}$
v) $\frac{55}{80}$	vi) 5/11	vii) $\frac{15}{13}$	viii) <u>65</u> 260
19. Find the	value of the polynomial	$5x - 4x^2 + 3$	at $x = 2$ and $x = -1$.

20. Write the coefficient of x^2 in each of the following:

			PM S	SHRI KE DH	CNDRIYA VIDY IARMAPURI Class X – Re	AL. al N	AYA Jumbers		
					Questions of 1 mar	k ea	ch		
Q.1.	Ifaa	and b a	ire two co	nsecutive na	tural numbers then the	e HC	F (a, b) is		
	А		1	В	2	C	ab	D	a + b
Q.2.	If tw HCF	ro posi 7 (a, b)	tive intege	ers a and b a	re written as $a = x^3 y^2$	and	$b = xy^3$; x, y are prin	ne nu	umbers, then
	A		xy	В	xy^2	С	<i>x</i> ³ <i>y</i> ³	D	x^2y^2
Q.3.	The	produc	t of the H	CF and LCM	M of the smallest prim	e nu	mber and the smalles	st cor	nposite number is
	Α		2	В	4	С	8	D	16
Q.4.	In a formula racing competition, the time taken by two racing cars A and B to complete one round of the track is 30 minutes and p minutes respectively. If the cars meet again at the starting point for the first time after 90 minutes and the HCF $(30, p) = 15$, then the value of p is								
	Α	45 1	ninutes	В	60 minutes	С	75 minutes	D	180 minutes
Q.5.	If H	CF of (65 and 11'	7 is expressi	ble in the form 65m –	117,	then the value of m	is	
	A		4	В	2	С	8	D	6
Q.6.	If $p^2 = \frac{32}{50}$, then p is a/an								
	A	v nu	whole umber	В	integer	C	rational number	D	irrational number
Q.7.	Wha	t is the	e largest n	umber that c	livides 245 and 1029,	leavi	ng remainder 5 in ea	ch ca	ase?
	А		16	В	15	C	9	D	5

Q.8.	The LCM of two co-prime numbers is always the
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	A	Sum of the numbers	В	Difference of the numbers	C	Product of the numbers	D	1
Q.9.	For the given factor tree							
				(1365)				
				3 455				
				a				
				6	A.	9		
	A	a = 5, b = 13	В	a = 13, b = 5	C	a = 65, b = 13	D	a = 5, b = 15
Q.10.	The	LCM of $2^3 \times 3^2$	and $2^2 \times 3^2$	3 ³ is				
	А	3 ³	В	2 ³	С	$2^{3} \times 3^{3}$	D	$2^{2} \times 3^{2}$
			AS	SERTION AND REA	ASO	NING		
	DIR	ECTION: In qu stater (a) Both Assertic	estion numb nent of Rea on (A) and R	pers 11 and 12, a stater son (R). Choose the con- Reason (R) are true and	nent orrec l Rea	of Assertion (A) is f et option uson (R) is the correct	follov t exp	wed by a
		Assertion (A)						
		(b) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of						
		(c) Assertion (A) is true but reason (R) is false.						
	(d) Assertion (A) is false but reason (R) is true.							
Q.11.	Assertion: The HCF of two numbers is 16 and their product is 3072. Then their LCM = 162. Reason: If a, b are two positive integers, then HCF (a, b) x LCM (a, b) = a x b							
Q.12.	Assertion: $\sqrt{7}$ is an irrational number. Reason: A square root of a prime number is always an irrational number.							

Questions of 2 marks each

Q.13.	Can two numbers have 18 as their HCF and 380 as their LCM? Justify your answer.
Q.14.	The HCF of two numbers is 23 and their LCM is 1449. If one of the numbers is 161, find the other.
Q.15.	Explain why $(17 \times 11 \times 2 + 17 \times 11 \times 5)$ is a composite number.
Q.16.	Three bells ring at an interval of 4, 7 and 14 minutes. All three bells rang together at 6am, at what time will the three bells ring together next?
	Questions of 3 marks each
Q.17.	Find the smallest number which when increased by 17 is exactly divisible by 520 and 468.
Q.18.	In a school there are two sections, namely A and B, of class X. There are 30 students in section A and 28 students in section B. Find the minimum number of books required for their class library so that they can be distributed equally among students of section A or section B
Q.19.	Aakriti decided to distribute milk in an orphanage on her birthday. The supplier brought two milk containers which contain 398 litres and 436 litres of milk. The milk is to be transferred to other containers so that 7 litres and 11 litres of milk is left in both the containers respectively. What will be the maximum capacity of the measuring drum?
	Questions of 5 marks each
Q.20.	Prove that $\sqrt{5}$ is an irrational number. Hence prove that $2 - 3\sqrt{5}$ is an irrational number.
Q.21.	National Art convention got registrations from students from all parts of the country, of which 60 are interested in music, 84 are interested in dance and 108 students are interested in handicrafts. For optimum cultural exchange, organizers wish to keep them in minimum number of groups such that each group consists of students interested in the same artform and the number of students in each group is the same. Find the number of students in each group. Find the number of groups in each art form. How many rooms are required if each group will be allotted a room? (CFQ)

	Case study question (4 marks)	
Q.22.	February 14 is celebrated as International Book Giving Day and	
	many countries in the world celebrate this day. Some people in	
	India also started celebrating this day and donated the following	International
	number of books of various subjects to a public library:	
	History = 96, Science = 240 , Mathematics = 336 .	
	These books have to be arranged in minimum number of stacks	
	such that each stack contains books of only one subject and the	
	number of books on each stack is the same.	
	Based on the above information, answer the following questions:	
	(i) How many books are arranged in each stack?	
	(ii) How many stacks are used to arrange all the Mathematics books	s?
	(iii) (a) Determine the total number of stacks that will be used for an	ranging all the books.
	(b)If the thickness of each book of History, Science and Mathem	natics is $1.8 \text{ cm}, 2.2 \text{ cm}$
	and 2.5 cm respectively, then find the height of each stack of	History, Science and
	Mathematics books.	

					ANSWERS				
Q.1	А	Q.2	В	Q.3	С	Q.4	А	Q.5	В
Q.6	С	Q.7	Α	Q.8	С	Q.9	А	Q.10	С
Q.11	d	Q.12	a	Q.13	No, because 18 is	Q.14	207	Q.16	6:28am
					not a factor of 380.				
Q.17	4663	Q.18	420	Q.19	17 litres	Q.21	HCF = 12	Q.22	(i) 48 (ii) 7
							5,7,9,21		(iii) 14
									(iv) 86.4cm,
									105.6 cm, 120cm

PM SHR	I KENDRIYA VODYALAYA DHARMAPURI
Class X	POLYNOMIALS

	Questions of 1 mark each.
1	If one of the zeroes of the quadratic polynomial (k–1) $x^2 + kx+1$ is (–3), then find the value of k
2	The sum of the zeroes of the quadratic polynomial $3x^2 - kx + 6$ is 3, then find the value of k
3	Find the quadratic polynomial whose zeroes are $\sqrt{2}$ and $2\sqrt{2}$.

4	If zeroes of the polynomial $x^2 + 4x + 2a$ are α and $\frac{2}{\alpha}$, then the value of a is
5	If p and q are the zeroes of the polynomial $p(x) = 2x^2 - 7x + 3$, then the value of $p^2 + q^2$ is
	Questions of 2 marks each
6	If α and β are the zeroes of the polynomial $f(x) = 2x^2 - 4x + 5$ then find the value of $\alpha^2 + \beta^2$
7	If α , β are the zeroes of the polynomial $f(x) = x^2 - 5x + k$ such that $\alpha - \beta = 1$, find the value of k.
8	If α and β are the zeroes of the quadratic polynomial $f(x) = x^2 - p(x+1) - c$, show that $(\alpha + 1) (\beta + 1) = 1 - c$
9	Find the value of 'k' such that the quadratic polynomial x^2 - (k+6) x + 2(2k+1) has sum of the zeros is half of their product
10	Find the zeros of the polynomial $p(x) = 4\sqrt{3} x^2 + 5x - 2\sqrt{3}$ and verify the relationship between the zeros and its coefficients
11	Find the value of 'k' so that the zeroes of the quadratic polynomial $3x^2 - kx + 14$ are in the ratio 7:6
	Questions of 3 marks each
12	If the Zeroes of the Quadratic Polynomial $6x^2$ - 3 - 7x are α and β then find the quadratic polynomial — — — whose zeroes are $\alpha \atop{\beta} \alpha \alpha$
13	If α , and β are the zeros of the polynomial $f(x) = x^2 + px + q$, then form a quadratic polynomial whose zeros are $(\alpha + \beta)^2$ and $(\alpha - \beta)^2$
14	If one zero of the polynomial $3x^2 - 8x + 2k + 1$ is seven times the other, then find k
15	If the Zeroes of the Quadratic Polynomial $x^2 + 4x + 3$ are α and β then find the quadratic polynomial – whose zeroes are $1 + \frac{\alpha}{\beta}$ and $1 + \frac{\beta}{\alpha}$

	1	4	2	9	3.	$x^2 - 3\sqrt{2x + 4}$	4	1
		3						
SIS	5	37	6	-1	7	6	8	
SWG		4						
An	9	5	10	$x = \frac{\sqrt{3}}{4}$ $x = -\frac{2}{\sqrt{3}}$	11	117	12	$18x^2 + 85x + 1$
				۲ Y S				
	13	$x^2 - 2p^2x - 4qx + p^4 - 4p^2q$	14	2/3	15	$3x^2 - 16x + 16$		

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				PM SHR	I K D] Q	KENDRIYA VIDYALAYA DHARMAPURI Quadratic Equations					
Q. No	Questions of 1 Mark each. (MCQ's)										
1.	The q	uadratic equation x^2 - 4	4x + 3y	2 has:							
	A	two distinct real roots	В	two equal real roots	С	no real roots	D	more than two real roots			
2.	The p	olynomial equation	x (x +	1) + 8 = (x + 2) (x - x) (x	2) is:						
	A	Linear	В	Quadratic	С	Cubic	D	Bi-quadratic			
3.	The e	quation $2x^2 + kx + 3 =$	0 has 1	two equal roots, then th	e valu	e of k is:					
	A	±√6 –	В	± 4	С	±3√2 -	D	±2√6 [−]			
4.	The non-zero roots of the equation $x^2+3x+k=0$ are in the ratio of 2:1. The value of k is:										
	A	0	В	3	С	2	D	1			
5.	The ro	oots of quadratic equa	tion x ² -	-0.09 = 0							
	A	+3, -3	В	-0.3, +0.3	С	12, +3	D	(2, -4)			
6.	Let p	be a prime number. T	he quad	lratic equation having it	s root	s as factors of p is:	I				

	Α	$x^2 - px + p = 0$	В	$x^{2}-(p+1)x+p=0$	С	$x^{2+}(p+1)x + p = 0$	D	$x^2 - px + p + 1 = 0$
7.	Whicł	n of these is a quadration	equa	tion having one of its ro	oots as	s 0?		
	i) $x^{3}+x^{2}=0$						
	i	i) $x^2 - 2x = 0$						
	i	ii) $x^2 - 9 = 0$						
	A	Only i)	В	Only ii)	С	Only i) and ii)	D	Only ii) and iii)

				-				
8.								
9.	A lad	was asked his age by l	nis fri	end. The lad said, "The	num	ber you get when you s	ubtra	ct 25 times my age
	from t	wice the square of my	age v	vill be thrice your age.	'' If th	ne friend's age is 14, the	en th	e age of the lad (in
	years)	is:						
						[[
	Α	21	В	28	С	14	D	25
10.				The magitive mast a	f./2	$e^2 + 6 = 0$ is:		
				The positive foot o	01 V 3X	$t^2 + 0 - 9$ is.		
		2	р	1	C	01	р	5
	Α	3	В	1	C	81	D	5
	DIR	ECTION: In the follow	ving c	uestions, a statement o	f asse	rtion (A) is followed by	/ state	ement of Reason (R) .
				Choose the c	orrect	option		
						1		
	(a) B	oth assertion (A) and r	eason	(R) are true and reason	(R) is	s the correct explanation	ofas	ssertion (A)
	(h) D	ath assortion (A) and r	20 20 2	(D) are true and reason	(D);	a not the correct evaluate	tion	f accortion (A)
	(u) D	our assertion (A) and I	eason	(K) are true and reason	(K) E	s not the correct explana		of assertion (A)
	(c) Assertion (A) is true but reason (R) is false.							
	(d) Assertion (A) is false but reason (R) is true.							
11.	٨٩٩	ertion. The equation O	$x^{2} + 2$	kx + 4 = 0 has equal to	ots fo	$\mathbf{r} \mathbf{k} = +4$		
	A35	er non. The equation 9	•A J	admetia aquatian in	ols 10	u K = <u>1</u>	nti-	• • • • • • • • • • • • • • • • • • •
	Reason: If discriminant of a quadratic equation is equal to zero then the roots of equation are real and equal.							

12.	Assertion: Every quadratic equation has at most 2 roots.
	Reason: Every quadratic equation has at least one real root.
	Section B consists of 5 questions of 2 marks each
13.	Find the roots of quadratic equation by factorisation: $\sqrt{2x^2 + 7x} + 5\sqrt{2} = 0$.
14.	Find the roots of the equation $x^2 + 7x + 10 = 0$ by using quadratic formula.
15.	For what values of k, the roots of the equation $x^2 + 4x + k = 0$ are real?
16	
10.	In a cricket match, Harbhajan took three wickets less than twice the number of wickets taken by
	Zahid. The product of the number of wickets taken by these two is 20. Represent the above situation in
	the form of quadratic equation.
17.	The sum of two numbers is 15. If the sum of their reciprocals is $\frac{3}{10}$, find the two numbers.
	Section C consists of 6 questions of 3 marks each.
18.	Solve for x: $\frac{1}{x-2} + \frac{2}{x-1} = \frac{6}{x}$; $x \neq 0, 1, 2$
19.	The product of two positive consecutive odd numbers is 483. Find the numbers.
20.	If Ritu were younger by 5 years than what she really is, then the square of her age would have been 11
	more than five times her present age. What is her present age?
21.	Solve for x: $9x^2 - 6px + (p^2 - q^2) = 0$
22.	Find the values 1 of k for the following quadratic equation, so that the roots are equal.
	$x^2 - 3(k+1)x + 12k = 0$
23.	If α and β are roots of the quadratic equation $x^2 - 7x + 10 = 0$, find the quadratic equation whose roots are
	α^2 and β^2 .
	Section D consists of 2 questions of 5 marks each.

24.	To fill a swimming pool two pipes are used. If the pipe of larger diameter used for 4 hours and the pipe of							
	smaller diameter for 9 hours, only half of the pool can be filled. Find, how long it would take for each pipe to fill							
	the pool separately, if the pipe of smaller diameter takes 10 hours more than the pipe of larger diameter to fill the							
	pool?							
25.	In a flight of 600km, an aircraft was slowed down due to bad weather. Its average speed for the trip was reduced							
	by 200 km/hr from its usual speed and the time of the flight increased by 30 min. Find the scheduled duration of							
	the flight.							
26.	A 2- digit number is such that the product of the digits is 14. When 45 is added to the number, the digits are							
	reversed. Find the number.							

	Case Study Based Question									
27.	There is a triangular playground as shown in the below figure. Many children and people are playing									
	and walking in the ground. As we see in the figure, in the given right - angled triangle playground, the length of									
	the sides are $5x \text{ cm}$ and $(3x - 1) \text{ cm}$ and area of the triangle is 60 cm^2 .									
	A = A = A = A = A = A = A = A = A = A =									
	Base	d on the above situatio	n, ans	wer the following quest	tions.	(i)Write				
	the quadratic equation for the above situation.									
	(ii) Fi	ind the value of x .								
	(iii) F	find the length of AC.								
	(iv) Find the length of the sides of the triangle.									
	Answers									
	1	А	2	А	3	D	4	С		
	5	В	6	В	7	С	8	А		
	9	С	10	D	11	а	12	с		
swers	13	- <u>-√</u> 2, ⁻⁵ √2	14	-5, -2	15	k≤4	16	$2x^2 - 3x - 20 = 0$		
Ans	17	10, 5	18	$\frac{4}{3}, 3$	19	21, 23	20	14 yrs		
	21	$\frac{p+q}{3}, \frac{p-q}{3}$	22	1, 3	23	$x^2 - 29x + 100 = 0$	24	20 hrs, 30 hrs		
	25	1 hr	26	27	25	(ii) 3 cm (iii) 17	(i)3x cm (iv)	$x^2 - x - 24 = 0$ 0 15 cm, 8 cm, 17 cm		