

KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION
COMPETENCY BASED QUESTIONS
CLASS: VIII
NAME OF CHAPTER : 1 RATIONAL NUMBERS

	MCQ
Q1	An integer can be: A. Only Positive B. Only Negative C. Both positive and negative D. None of the above
Q2	A rational number can be represented in the form of: A. p/q B. pq C. $p+q$ D. $p-q$
Q3	The value of $\frac{1}{2} \times \frac{3}{5}$ is equal to: A. $\frac{1}{2}$ B. $\frac{3}{10}$ C. $\frac{3}{5}$ D. $\frac{2}{5}$
Q4	The value of $(\frac{1}{2}) \div (\frac{3}{5})$ is equal to: A. $\frac{3}{10}$ B. $\frac{3}{5}$ C. $\frac{6}{5}$ D. $\frac{5}{6}$

Q 5	The value of $\frac{1}{2} + \frac{1}{4}$ is equal to: A. $\frac{3}{4}$ B. $\frac{3}{2}$ C. $\frac{2}{3}$ D. 1
Q 6	The associative property is applicable to: A. Addition and subtraction B. Multiplication and division C. Addition and Multiplication D. Subtraction and Division
Q 07	Assertion (A) – $(a + b) + c = a + (b + c)$ is called Reason (R) – The associative laws state that when you add or multiply any three real numbers, the grouping (or association) of the numbers does not affect the result a) Both A and R are true and R is the correct explanation of A b) Both A and R are true but R is not the correct explanation of A c) A is true but R is false d) A is false but R is true
Q 08	. Assertion (A) – Rational numbers are not closed under multiplication Reason (R) – A rational number is a number that is in the form of $\frac{p}{q}$, where p and q are integers, and q is not equal to 0. a) Both A and R are true and R is the correct explanation of A b) Both A and R are true but R is not the correct explanation of A c) A is true but R is false d) A is false but R is true1

Q 09	Case Study A dog buries three bones in the backyard. The first bone is buried $-2\frac{1}{2}$ feet, the second bone is buried $-5\frac{1}{6}$ feet. And the third bone is $-30/4$ feet. i) Simplify : $-2\frac{1}{2} \times -5\frac{1}{6} \times \frac{-30}{4}$ ii) How much deeper is the third bone buried from the first bone?
Q 10	Jimi has two rational numbers $-3/4$ and $-5/8$, Now She is asking few questions regarding these two numbers to his friends, i) What should be the addition of these two numbers? $-11/8$ a) $-11/8$ b) $11/8$ c) $8/11$ d) $88/11$ ii) When you subtract $-3/4$ from $-5/8$ what should be the difference? a) $2/8$ b) $3/8$ c) $5/8$ d) $1/8$ iii) When you divide both the numbers what is the ratio? $6/5$ a) $6/7$ b) $7/6$ c) $6/5$ d) $5/6$ iv) When we multiply what should be the multiplication? a) $15/32$ b) $32/15$ c) $34/33$ d) $6/7$

SOLUTIONS:

A 1.	C
A 2.	A
A 3.	B
A 4.	D
A 5.	A
A 6.	C
A 7.	A
A 8.	D
A 9.	Ans)-96 integer $7/8$
A 10.	$-11/8, 1/8, 6/5, 15/32$

KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION
COPETENCY BASED QUESTIONS
CLASS: VIII
NAME OF CHAPTER :2 LINEAR EQUATION IN ONE VARIABLE

	MCQ
Q1	Which of the following is not a linear equation in one variable? A. $33z+5 = 0$ B. $33(x+y) = 0$ C. $33x+5 = 0$ D. $33y+5 = 0$
Q2	The solution of $2x-3=7$ is: A. 5 B. 7 C. 12 D. 11
Q3	What should be added to $-7/3$ to get $3/7$? A. $21/58$ B. $58/21$ C. $47/21$ D. $50/21$
Q4	The perimeter of the rectangle is 20cm. If the length of the rectangle is 6cm, then its breadth will be: A. 4 cm B. 6 cm C. 10 cm

	D. 14 cm
Q 5	The difference between two whole numbers is 66. The ratio of the two numbers is 2: 5. The two numbers are: A. 60 and 6 B. 100 and 33 C. 110 and 44 D. 99 and 33
Q 6	Three consecutive integers add up to 51. The integers are: A. 16, 17, 18 B. 15, 16, 17 C. 17, 18, 19 D. 18, 19, 20
Q 07	$(2x-2) + (3x-3) + (9x-9) = 1$ A-15/4 B-23/4 C-77/4 84/7
Q 08	. In an isosceles triangle, the base angles are equal, and the vertex angle is 80 degrees. Find the measure of the base angles.
	A-30 B-40 C-50 D-49
Q 09	. Case study based multiple choice question- Soni and Moni are going to market purchasing some toys for children Soni has Rs 84 in purse while Moni has Rs 85. Soni has total 36 coins of 2 Rs and Rs 5. Moni has Rs 1 and Rs2 coins in the ratio of 5:6. Now give the answer of the following question. 1. The equation of finding the number of coins in soni's purse is (b) $x-5(36-x)=84$ (c) $2x-5(36-x)=84$ (a) $x + 36x = 84$ 2. The equation of finding the no of coins in moni's purse is . a. $5x+6x=85$ b. $5x+12x=85$ c. $x+2x=85$ d. $2x + 5x =85$

	3. The no of Rs 2 coins in Soni's purse. a. 30 b. 32 c.36 d.40 4. The no of Rs 2 coins in moni's purse a. 30 b. 32 c. 36 d.25 5. Total no of Rs 2 coins in moni's purse a. 30 b. 55 C. 50 d.25
Q 10	Ram Sharan donated $\frac{2}{3}$ of his monthly income to a NGO, working for the education of girls, spent $\frac{1}{5}$ of his salary on purchasing food items for consumption of his family. He contributed $\frac{1}{15}$ of his salary in meeting out other expenses. He is left with Rs 9000. Please answer the following questions. 1. What is Ram Sharan's salary? 2 How much money did he donate to the NGO for education of girls? 3 How much money did he spend on purchasing food items? How much money did he spent on meeting of other items?

SOLUTIOS:

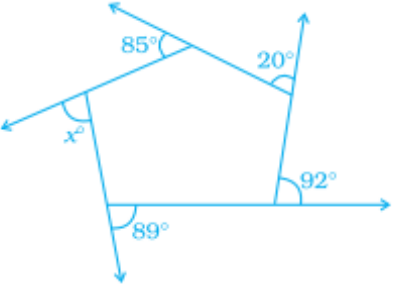
A 1.	B
A 2.	A
A 3.	B
A 4.	A
A 5.	C
A 6.	A
A 7.	A
A 8.	C
A 9.	A,B,C,D
A 10.	13,500 90,000 , 27,000 9000

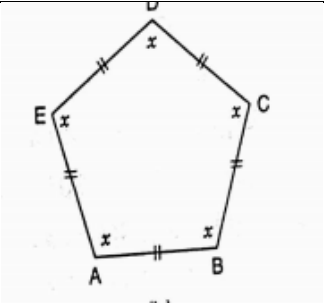
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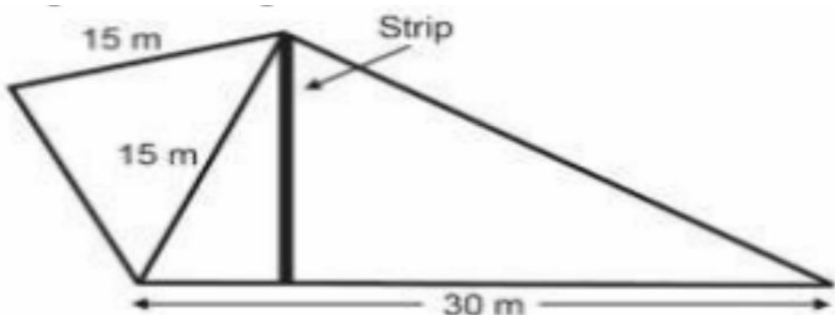
COMPETENCY BASED QUESTIONS

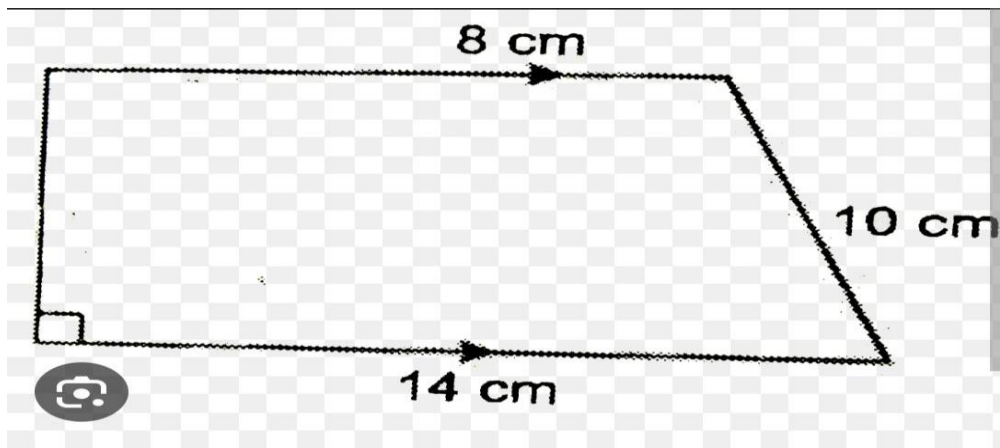
CLASS: 8

NAME OF CHAPTER : 3 UNDERSTANDING QUADRILATER

	MCQ (UNDERSTANDING QUADRILATERAL)
Q1	Find the number of sides of a regular polygon whose each exterior angle has a measure of 45° . (a) 6 (b) 4 (c) 10 (d) 8
Q2	What is the minimum interior angle possible for a regular polygon? (a) 50° (b) 30° (c) 40° (d) 60°
Q3	The ratio of exterior angle to interior angle of a regular polygon is 1:4. What will be the number of sides of the polygon? (a) 4 (b) 6 (c) 5 (d) 10
Q4	What is the sum of all exterior angles of a triangle? (a) 180° (b) 360° (c) 540° (d) 720°
Q 5	 From the above figure find the value of x (a) 74° (b) 90° (c) 52° (d) 36°

Q 6	 From the above figure find the value of x (a) 104° (b) 90° (c) 108° (d) 540°
Q 7	Trapezium is a quadrilateral with a pair of _____ sides. (a) Parallel (b) Perpendicular (c) Equal (d) None of the above
Q 8	A parallelogram is a quadrilateral whose opposite sides are parallel. (a) TRUE (b) FALSE
Q 9	
	Which of the given quadrilaterals satisfy the following properties?- All sides are congruent.- All angles are right angles.- Opposite sides are parallel. (a) P (b) Q (c) R (d) S
Q 10	The measure of how many angle/angles of concave quadrilateral is more than 180° ? (a) 3 (b) 1 (c) 3 (d) 0
	ASSERTION- REASON / VERY SHORT
Q 11	Assertion : ABCD is a square. AC and BD intersect at O. The measure of angle AOB = 90°. Reason : Diagonals of a square bisect each other at right angles.

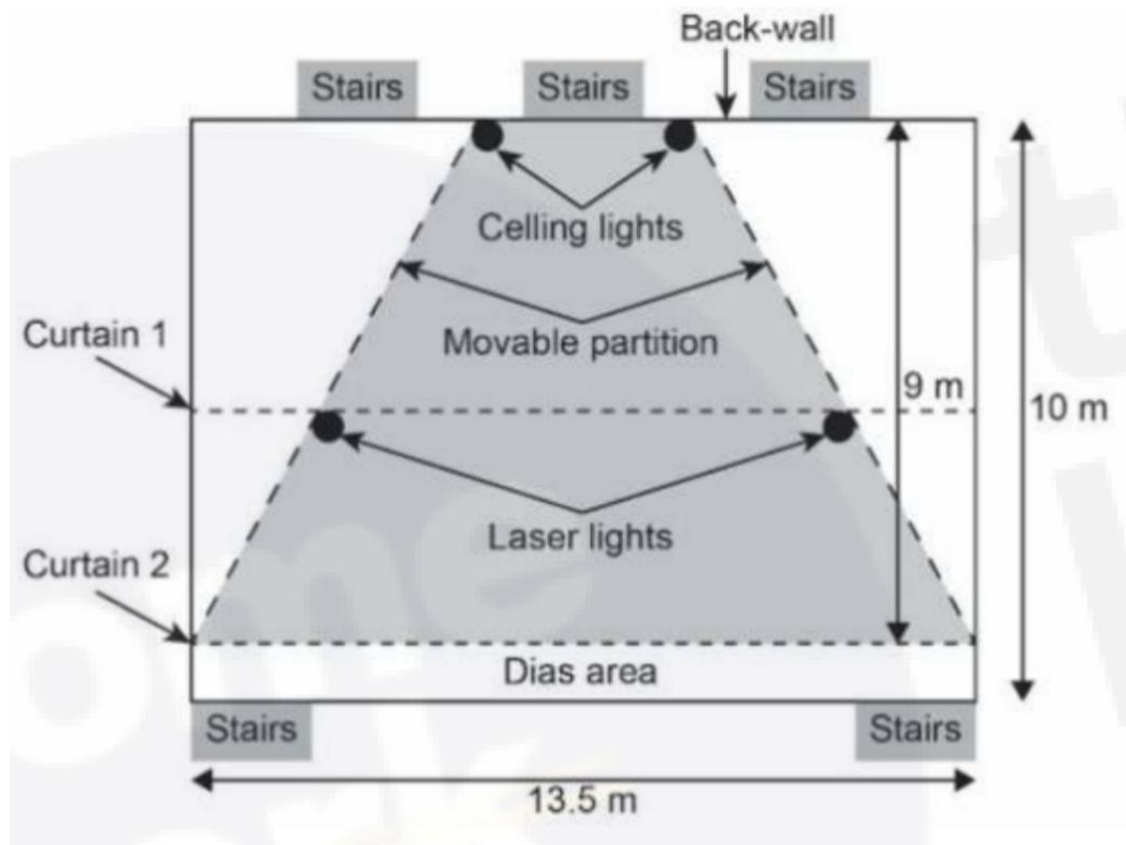
	(a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.
Q 12	Assertion : Two opposite angles of a parallelogram are $(3x-2)^\circ$ and $(50-x)^\circ$. The measure of one of the angle is 37°. Reason : Opposite angles of a parallelogram are equal. (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A.((c) A is true but R is false. (d) A is false but R is true.
	CASE BASED/SOURCE BASED / PASSAGE BASED
Q 13	(A) Anuj lays a wooden floor for a kite shaped room. He Places the strip such that they are perpendicular to the longest side of the room vertically. One strip is shown in the figure. What is the approximate length of strip in the figure?  (a) 10 (b) 18.6 (c) 14.6 (d) 22.5 (B) Another floor in Anuj's house is in the shape of trapezium. The floor is divided into two parts having equal areas to lay plank



In each areas, different color planks are used. Suggest a way in which it could be done.

Q 14

The figure below shows the layout of rectangular stage in the auditorium. Two movable flexible partitions of equal length marks the performance area. The shaded portion in the given below shows the performance area.



The movable partition divide the back wall into three equal parts.

	(A) Which of these is the angle between the movable part and the back wall? (a) 30° (b) 45° (c) 60° (d) 90° (B) The dotted line representing curtain 1 join the mid points of movable partition. What is the length of the curtain line between the movable partition? (C) Two laser light beams are flashed from the two ends of the Curtain 1 line. The beams intersect each Other at the mid-point of the Curtain 2 line. At what angle to Curtain 1 line are the light beam flashed? (a) 0° (b) 45° (c) 60° (d) 120°
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Answer k

Questions	Answer
Q1	(d)
Q2	(d)
Q3	(b)
Q4	(b)
Q5	(a)
Q6	(c)
Q7	(a)
Q8	(a)
Q9	(c)
Q10	(b)
Q11	(a)
Q12	(a)
Q13-(A)	(c)
Q13-(B)	Draw a perpendicular
Q14-(A)	(c)
Q14-(B)	9 m
Q14-(C)	(b)

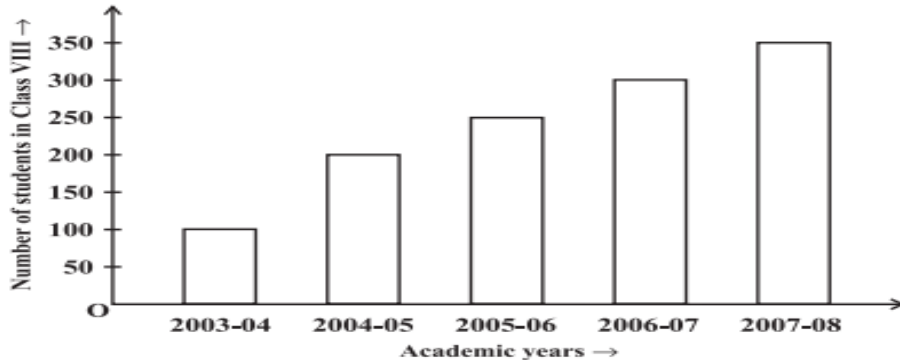
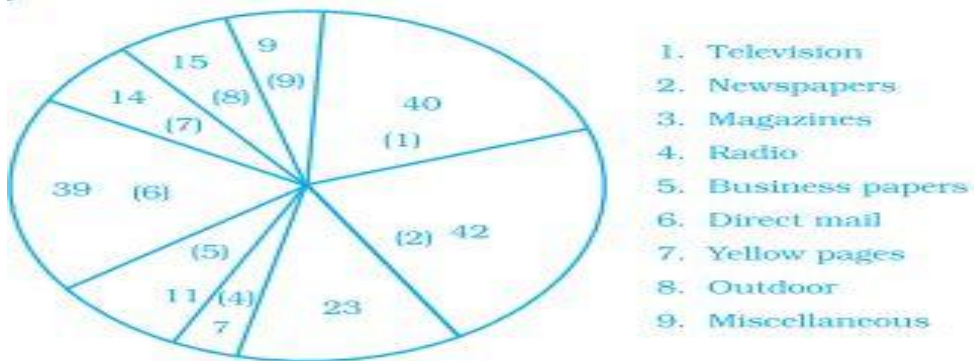
KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION

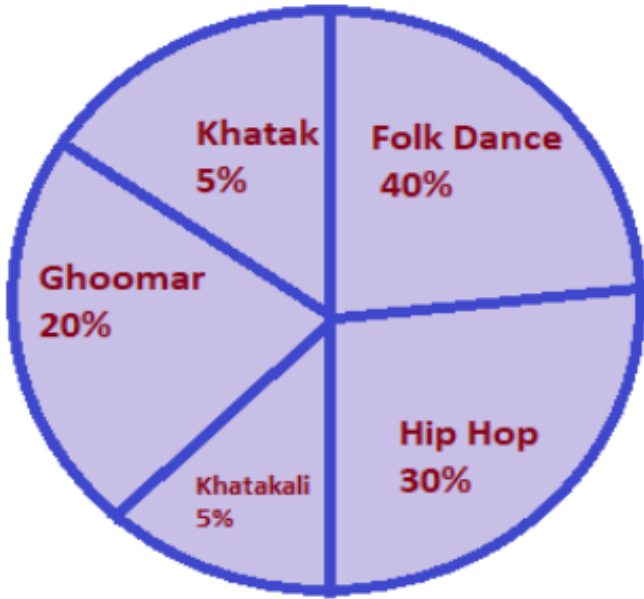
COMPETENCY BASED QUESTIONS

CLASS: VIII

NAME OF CHAPTER : 4 DATA HANDLING

	MCQ
Q1	From the above image, the pie chart depicts the expenditure of a state government under different heads. IF total spending is 10 crores. How much money was spent on roads? (a) 1 Crore (b) 2.5 Crore (c) 3 Crore (d) 2 Crore
Q2	What is called raw data? (a) A collection of numerical facts regarding a particular type of information (b) A collection of observations gathered initially (c) The number of times a particular observation occurs (d) NONE OF THESE
Q3	(i) A circle divided into four equal sectors: Red (top-left), Green (top-right), Blue (bottom-left), and Red (bottom-right). (ii) A circle divided into four equal sectors: Red (top-left), Green (top-right), Green (bottom-left), and Blue (bottom-right). (iii) A circle divided into six equal sectors: Blue (top), Green (top-right), Green (top-left), Blue (bottom-right), Red (bottom), and Blue (bottom-left). (iv) A circle divided into six equal sectors: R (top), B (top-left), G (top-right), G (bottom-right), R (bottom), and B (bottom-left). From the above figure, Rahul, Varun and Yash are playing a game of spinning a coloured wheel. Rahul wins if spinner lands on red. Varun wins

	if spinner lands on blue and Yash wins if it lands on green. Which of the following spinner should be used to make the game fair? (a) I (b) ii (c) iii (d) iv
Q4	In a _____, the various observations are represented by the sectors of a circle and the whole circle represents the sum of the values of all components. (a) Bar graph (b) line graph (c) pie chart (d) Histogram
Q 5	 From the above figure, in which year is the increase in the number of students maximum? (a) 2003-2004 (b) 2004-05 (c) 2007-08 (d) 2006-07
Q 6	 From the above image, a pie chart showing the amount spent in rupees (in thousands) by a company on various modes of advertising for a product is given. What per cent of the total advertising amount is spent on direct mail campaigns? (a) 19.5 % (b) 32.5 % (c) 25.50% (d) 17.89%
	ASSERTION- REASON / VERY SHORT
Q 07	Assertion : When a die is thrown number of possible outcomes is 6 Reason: Probability of getting an even prime number when a die is thrown is $\frac{1}{6}$.

	(a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.
Q 08	Assertion : Probability of choosing the letter "S" from the word HISTOGRAM is $\frac{1}{9}$. Reason : $P(A)+P(\text{NOT } A)=1$. (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.
CASE BASED/SOURCE BASED / PASSAGE BASED	
Q 9	 A survey was made to find the type of dance that a certain group of young people liked in a city. The adjoining pie chart shows the findings of this survey. From this pie chart, answer the following: (1) Which type of dance is liked by the maximum number of people? (a) KHATAK (b) FOLK DANCE (c) HIP HOP (d) GHOOMAR (2) Name the type of dance which is liked by 30% of people. (a) HIP HOP (b) KHATAK (c) KATHAKALI (d) FOLK DANCE

	(3) If 20 people liked folk dance, how many young people were surveyed. (a) 50 (b) 100 (c) 200 (d) 500
Q 10	Some friends are playing and they write the numbers 1 to 10 on ten separate slips (one number on one slip), keep it in a box and mix it well. One slip is chosen from the box without looking into it. What is the probability of: (1) getting a number less than or equal to 5 (a) $\frac{1}{2}$ (b) $\frac{5}{10}$ (c) 1 (d) $\frac{2}{3}$ (2) getting a prime number (a) $\frac{1}{2}$ (b) $\frac{2}{5}$ (c) $\frac{4}{3}$ (d) $\frac{3}{10}$ (3) getting two digit number (a) $\frac{2}{5}$ (b) 1 (c) $\frac{9}{10}$ (d) $\frac{1}{10}$ (4) getting an even number (a) $\frac{3}{8}$ (b) 2 (c) $\frac{1}{2}$ (d) 0

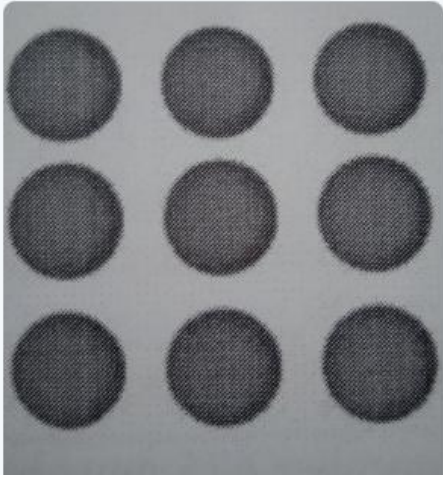
ANSWER KEY

Q. NO	ANSWER
1	(a) 1 Crore
2	(a) A collection of observations gathered initially
3	(b) ii
4	(c) pie chart
5	(c) 2007-08
6	(a) 19.5 %
7	(b) Both A and R are true but R is not the correct explanation of A.
8	(b) Both A and R are true but R is not the correct explanation of A.
9	1. (b) FOLK DANCE

	2. (a) HIP HOP 3. (a) 50
10	1. (a) $\frac{1}{2}$ 2. (b) $\frac{2}{5}$ 3. (d) $\frac{1}{10}$ 4. (c) $\frac{1}{2}$

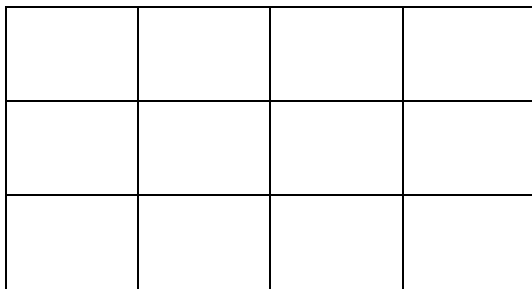
KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION**COMPETENCY BASED QUESTIONS****CLASS: VIII****NAME OF CHAPTER : 5 SQUARE ROOT**

MCQ	
Q1	Which of the following is the square of an odd number? (a) 256 (b) 361 (c) 144 (d) 400
Q2	A number ending in 9 will have the units place of its square as (a) 3 (b) 9 (c) 1 (d) 6
Q3	How many natural numbers lie between 52 and 62? (a) 9 (b) 10 (c) 11 (d) 12
Q4	A square board has an area of 144 square units. How long is each side of the board? (a) 11 units (b) 12 units (c) 13 units (d) 14 units
Q 5	If one member of a pythagorean triplet is $2m$, then the other two members are (a) m, m^2+1 (b) m^2+1, m^2-1 (c) m^2, m^2-1 (d) $m^2, m+1$
Q 6	A perfect square can never have the following digit in its ones place. (a) 1 (b) 0 (c) 8 (d) 6
VERY SHORT	
Q 07	Write a Pythagorean triplet whose smallest number is 6.
Q 08	The speed of a tsunami, in meter per second, can be found by the formula $r = \sqrt{9.7344d}$, where d is the water depth in meter. Suppose the water depth is 6400m. How fast is the tsunami moving?
CASE BASED/SOURCE BASED / PASSAGE BASED	
Q 09	For a school performance, an equal number of students are to be arranged in each row and column. 9 students can be arranged as shown in Arrangement



1. How many students can be added in a row/column in Arrangement 1 for 625 students?
2. The teachers organizing the performance think that it will be difficult to arrange 625 students in one group. They think of dividing the group into two square arrangements. How many students can be there in each arrangement?

Q 10



The rectangle below is made of unit squares.

1. What are the possible ways of converting it into a square?
2. How many more unit squares are needed to make it perfect square

ANSWER KEY

MCQ	
Q1	(b) 361
Q2	(c) 1
Q3	(b) 10
Q4	(b) 12 units
Q 5	(b) m^2+1 , m^2-1
Q 6	(c) 8
VERY SHORT	
Q 07	6,8,10
Q 08	$r = 249.6 \text{ m/sec}$
CASE BASED/SOURCE BASED / PASSAGE BASED	
Q 09	1. 25 2. 225,400
Q 10	1. Remove one column of unit squares in the rectangle. OR Remove two columns and one row of the unit squares in the rectangle. Add one row of unit squares 2. 4 unit squares

KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION**COMPETENCY BASED QUESTIONS****CLASS VIII**

1	If one side of a cube is 15m in length, its volume cubic meter is (A) 225 (B) 3175 (C) 3375 (D) 625	
2	The next two numbers in the number pattern 1, 8, 27, 64, 125 ... are (A) 36, 49 (B) 216, 343 (C) 216, 49 (D) 196, 343	
3	The units place digit of a cube root of 12167 is (A) 1 (B) 7 (C) 3 (D) 9	
4	Out of the following , which one is a perfect cube is (A) 1333 (B) 127 (C) 1728 (D) 1224	
5	Which of the following digits of a number have same digit in the units place of its cube root. (A) 1 (B) 7 (C) 3 (D) 6	
6	Assertion (A) – 125 is perfect cube. Reasons (R)–A perfect cube is a number that can be expressed as the product of an same integer 3 times (A) Both A and R is true and R is correct explanation of A. (B) Both A and R is true and R is not correct explanation of A. (C) A is true but R is false. (D) A is false but R is True	
7	Assertion (A) – 1000 is perfect cube. Reasons (R)–A perfect cube is a number that can be expressed as the product of an same integer 3 times. (A) Both A and R is true and R is correct explanation of A. (B) Both A and R is true and R is not correct explanation of A. (C) A is true but R is false. (D) A is false but R is True	
8	Assertion (A) – 400 is perfect cube. Reasons (R)–A perfect cube is a number that can be expressed as the product of an same integer 3 times (A) Both A and R is true and R is correct explanation of A. (B) Both A and R is true and R is not correct explanation of A. (C) A is true but R is false. (D) A is false but R is True	
9	Assertion (A) –27 is a cube number. Reasons (R)–A perfect cube is a number that can be expressed as the product of an integer by itself or as the second exponent of an integer. (A) Both A and R is true and R is correct explanation of A. (B) Both A and R is true and R is not correct explanation of A. (C) A is true but R is false. (D) A is false but R is True	
10	Assertion (A) –The cube of an even natural number is even. Reasons (R)–A perfect cube is a number that can be expressed as the product of an integer by itself or as the second exponent of an integer.	

	(A) Both A and R is true and R is correct explanation of A. (B) Both A and R is true and R is not correct explanation of A. (C) A is true but R is false. (D) A is false but R is True	
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6 CUBE AND CUBE ROOT

ANSWER KEY

1	(C) 3375	
2	(B) 216, 343	
3	(C) 3	
4	(C) 1728	
5	(A) 1 AND (D) 6	
6	(A) Both A and R is true and R is correct explanation of A.	
7	(A) Both A and R is true and R is correct explanation of A.	
8	(D) A is false but R is True	
9	(C) A is true but R is false.	
10	(C) A is true but R is false.	

KENDRIYA VIDYALAYA SANGATHAN**(AHMEDABAD REGION)****COMPETENCY BASED QUESTIONS****CLASS VIII****CHAPTER: 7 COMPARING QUANTITIES**

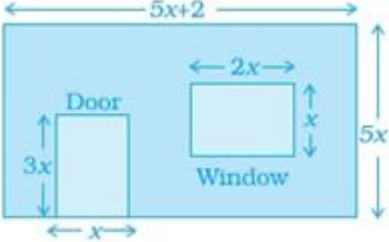
	MCQ																
1	A picnic is being planned for class VIII. Girls are 60% of the total number of students and are 18 in number. The ratio of number of girls to the number of boys in the class is a) 2:3 b) 3:2 c) 4:5 d) none of these																
2	A football team won 10 matches out of the total number of matches they played. If their win percentage was 40, how many matches did they play in all. a) 10 b) 25 c) 40 d) none of these																
3	A dealer purchased a washing machine for Rs 7660. He allows a discount of 12% on its marked price and still gains 10%. Find the marked price of the machine. a) Rs 9800 b) Rs 9675 c) Rs 9575 d) none of these																
4	On selling a table for Rs 987, Ramesh loses 6%. For how much did he purchase it? a) Rs 1500 b) Rs 105 c) Rs 1050 d) none of these																
5	At what rate percent per annum simple interest will a sum treble itself in 16 years? a) 12% b) 12.5% c) 15% d) $16\frac{2}{3}\%$																
6	The table shows the marks scored by Anuj in different subjects. <table><tr><th>Subject</th><th>Marks scored</th><th>Total Marks</th></tr><tr><td>English</td><td>22</td><td>25</td></tr><tr><td>Science</td><td>52</td><td>60</td></tr><tr><td>Hindi</td><td>55</td><td>100</td></tr><tr><td>Mathematics</td><td>68</td><td>75</td></tr></table> Of the marks given, in which subject he scored the highest percentage a) Hindi b) English c) Science d) Mathematics	Subject	Marks scored	Total Marks	English	22	25	Science	52	60	Hindi	55	100	Mathematics	68	75	
Subject	Marks scored	Total Marks															
English	22	25															
Science	52	60															
Hindi	55	100															
Mathematics	68	75															
	ASSERTION AND REASONING																
7	Assertion (A) – The ratio of 10 m to 1 km is 1 : 10 Reasons (R) – A ratio can be defined as the relationship or comparison between two numbers of the same unit to check how bigger is one																

	number than the other one a) Both A and R are true and R is the correct explanation of A b) Both A and R are true but R is not the correct explanation of A c) A is true but R is false d) A is false but R is true	
Q. 8	Assertion (A) – The marked price of a book is Rs 100. The shopkeeper gives 25% discount on it. 75 is the sale price of the book Reasons (R) –The price after the original price has been reduced by a discount is known as sale price. Reasons (R) –The amount that the buyer pays to buy the product is called the selling price a) Both A and R are true and R is the correct explanation of A b) Both A and R are true but R is not the correct explanation of A c) A is true but R is false d) A is false but R is true	
	CASE BASED QUESTIONS	
Q. 9	 A new movie was released on Friday, 150 seats were booked that day. The booking for the movie increased to 300 seats on Saturday. (i) What was the percent increase in the number of seats booked on Saturday? A. 2% B. 100% C. 150% D. 200% (ii) The cost of a ticket for the show is Rs. 250. Ayush got a 20% discount on buying a ticket through online booking. How many rupees did Ayush pay for the ticket? A. Rs 25 B. Rs 50 C. Rs 200 D. Rs 300 (iii) Outside the cinema hall, Neeraj has a stall that sells a pack of	

	popcorn for Rs. 200. The government charges 18% GST on selling of goods or services. The price at which Neeraj sells popcorn includes GST. How much GST (in rupees) is charged on selling one pack of popcorn? (Give your answer correct up to one decimal place)	
Q. 10	 Mayur deposited Rs. 50,000 in a bank for 5 years. At the end of first year, an amount of Rs. 3000 is added as interest in Mayur's account. At the end of fifth year, he had a sum of Rs. 66,911.27 in his account (i) What is the rate of interest given by the bank on the sum of money in Mayur's account? (ii) At the end of one year, Riya gets Rs. 21,200 from the bank. She gets the same rate of interest on deposited money as Mayur gets from the bank. What is the principal sum (in rupees) Riya deposited with the bank? A. Rs 15 ,000 B.Rs18,200 C.Rs19,928 D. Rs 20,000	
	ANSWER KEY	
	Q.1 B	
	Q.2 B	
	Q.3 C	
	Q.4 C	
	Q.5 B	
	Q.6 D	
	Q.7 A	
	Q.8 D	
	Q.9 (i) B (ii) D (iii)	
	Q.10 (i) 6%,(ii) 20,000	

KENDRIYA VIDYALAYA SANGATHAN
(AHMEDABAD REGION)
COMPETENCY BASED QUESTIONS
CLASS VIII
CHAPTER: 8 ALGEBRAIC EXPRESSIONS

Q.1	Which of these expressions is an example of a binomial? a) $4xy^2$ b) $4 \times y^2$ c) $4 \times (x + 2y^2)$ d) $7x - 8y^2 - 5$
Q.2	The product of polynomial px^4 and qx^4 is $8x^6$. Which of these is correct about the values of p,q,c and d? a) $p+q=8$ and $c+d=6$ b) $p \times q = 8$ and $c \times d = 6$ c) $p \times q = 8$ and $c + d = 6$ d) $p+q=8$ and $c \times d=6$
Q.3	Which of the following is not a binomial a) $m+n$ b) mn c) $m-n$ d) m^2-n^2
Q.4	The product of polynomials $-6tu^3$, $-t^3u^j$ and $-3t^ku^k$ is $-18t^7u^8$, where j and k are unknown constants. What are the values of j and k a) $j=2$ and $k=3$ b) $j=3$ and $k=2$ c) $j=5$ and $k=3$ d) $j=1$ and $k=4$
Q.5	Subtracting $7x + y$ from $-x + y$ gives a) $6x + 2y$ b) $8x + 2y$ c) $-8x$ d) $8x$
Q.6	If the product of $(4x + 1)$ and $(x+4)$ is $ax^2 + bx + c$ what is the value of $a + b + c$? a) 22 b) 24 c) 25 d) 26
Q.7	Assertion (A) –The expression $x + 3$ is in one variable Reasons (R) –The expression $(n+3)$ represents the measure of an exterior angle of a regular octal decagon a) Both A and R are true and R is the correct explanation of A (b) Both A and R are true but R is not the correct explanation of A c) A is true but R is false d) A is false but R is true

Q.8	Assertion (A) –The expression $4xy + 7$ is in two variables Reasons (R) –There are two variables x and y. a)Both A and R are true and R is the correct explanation of A b) Both A and R are true but R is not the correct explanation of A c) A is true but R is false d) A is false but R is true
Q.9	Ramu's grandfather goes to a park for morning walk daily as advised by the doctor to him. He takes 4 rounds of the park in half an hour. The shape of park is rectangular, and the length of park is $(2x - 5)$ units and breadth is $(2x + 5)$ units. i) which concept can be used to find the area of the park? ii) Find the area of Park iii) which concept can be used to find the diagonal of the park? iv) what distance covered By Ramu's grandfather in taking four rounds of the park?
Q.10	The figure shows the dimension of a wall having a window and a door of a room .Write an algebraic expression for the area of the wall to be painted. 
	ANSWER KEY Q.1 C Q.2 C Q.3 B Q.4 A Q.5 C Q.6 C Q.7 C Q.8 A Q.9 Binomial-Binomial multiplication. This is because in order to find the area of the rectangle we have to multiply the length with the breadth and here both the dimensions are in binomial form. 2. The area of the park = length $\times$ breadth

$$\begin{aligned}
 &= (2x - 5)(2x + 5) \\
 &= 2x(2x + 5) - 5(2x + 5) \\
 &= 4x^2 + 10x - 10x - 25 \\
 &= \mathbf{4x^2 - 25 \text{ unit sq.}}
 \end{aligned}$$

or using $(a+b)(a-b) = a^2 - b^2$

$$= (2x)^2 - 5^2 = 4x^2 - 25 \text{ unit sq.}$$

3. In order to find diagonal of the park, the **Pythagoras** formula can be used.

$h^2 = \text{base}^2 + \text{perpendicular}^2$ (where length and breadth acts as p and b)

In order to solve this, the **identities of $(a+b)^2 = a^2 + 2ab + b^2$ and $(a-b)^2 = a^2 - 2ab + b^2$ and concept of addition of trinomial terms will be used.**

4. To find the distance of each round, we will be finding the perimeter of the rectangle.

$$\text{Perimeter} = 2(\text{Length} + \text{Breadth})$$

$$= 2(2x - 5 + 2x + 5)$$

$$= 2(4x)$$

$$= \mathbf{8x \text{ units.}}$$

Now for 4 rounds it will be:

$$4 \times 8x = \mathbf{32x \text{ units.}}$$

Q.10 The dimension of the wall represents a rectangle.

Area of the rectangle = length $\times$ breadth

Subtract the dimensions of the door and window.

$\therefore$ Dimension of the wall which have to be painted = Area of the rectangle - Area of the door - Area of the window

$$\text{Dimension of the wall which have to be painted} = [(5x + 2) \times 5x] - (3x \times x) - (2x \times x)$$

$$= 25x^2 + 10x - 3x^2 - 2x^2$$

$$= 20x^2 + 10x$$

$$= 10x(2x + 1) \text{ sq.units}$$

KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION**COMPETENCY BASED QUESTIONS****CLASS: VIII****NAME OF CHAPTER : 9 MENSURATION**

	MCQ
Q1	The ratio of the radius of two right circular cylinder is 1 : 2 and the ratio of their height is 4 : 1 then the ratio of their volume is (a) 1 : 2 (b) 2 : 1 (c) 1 : 1 (d) 4: 1
Q2	Mitesh wants to buy a trapezium shaped field. Its side along the river is parallel to and twice the side along the road. If the area of this field is 10500 m^2 and the perpendicular distance between the two parallel sides is 100 m, find the length of the side along the river. (a) 114 m (b) 130 m (c) 140 m (d) 104 m
Q3	The area of a trapezium is 1586 cm^2 and the distance between its parallel sides is 26 cm. If one of the parallel sides is 84 cm, find the other (a) 38 cm. (b) 30 cm (c) 13 cm (d) 83 cm
Q4	The diameter of a wheel is 70 cm. How many times the wheel will revolve in order to cover a distance of 110 m? (a) 38 . (b) 50 (c) 15 (d) 51
Q 5	A well of diameter 150 cm has a stone parapet around it. If the length of the outer edge of the parapet is 616 cm, find the width of the parapet. (a) 38 cm. (b) 30 cm (c) 13 cm

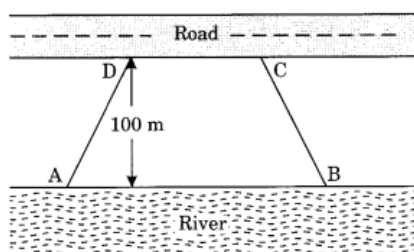
	(d) 23 m
Q 6	A thin wire is in the form of an equilateral triangle of side 11 cm. Find the area of a circle whose circumference is equal to the length of the wire. (a) 86.625 cm^2 (b) 86.200 cm^2 (c) 85.625 cm^2 (d) 76.675 cm^2
	ASSERTION- REASON / VERY SHORT

Q 07	Assertion (A) $12a - 9ab + 5b - 3$ is a trinomial Reasons (R) A trinomial is an algebraic expression that has three non-zero terms a) Both A and R are true and R is the correct explanation of A b) Both A and R are true but R is not the correct explanation of A c) A is true but R is false d) A is false but R is true
Q 08	Assertion (A) 4 is a monomial Reasons (R) A monomial is an expression of the form $k \cdot x^n$, where k is a real number and n is a positive integer. a) Both A and R are true and R is the correct explanation of A b) Both A and R are true but R is not the correct explanation of A c) A is true but R is false d) A is false but R is true
	CASE BASED/SOURCE BASED / PASSAGE BASED
Q 09	Daniel is painting the walls and ceiling of a cuboidal hall with length, breadth and height of 15 m, 10 m and 7 m respectively. From each can of paint 100 m^2 of area is painted. How many cans of paint will she need to paint the room?



Q 10

Mohan wants to buy a trapezium-shaped field. Its side along the river is parallel to and twice the side along the road. If the area of this field is 10500 m^2 and the perpendicular distance between the two parallel sides is 100 m , find the length of the side along the river.



Answers

1(c)

2 (c)

3(a)

4(b)

5(b)

6(a)

7(d)

8(a)

9 Ans Surface area of a cuboidal hall without bottom

$$\begin{aligned}
 &= \text{Total surface area} - \text{Area of base} \\
 &= 2 [lb + bh + hl] - lb \\
 &= 2 [15 \times 10 + 10 \times 7 + 7 \times 15] - 15 \times 10 \\
 &= 2 [150 + 70 + 105] - 150 \\
 &= 2 [325] - 150
 \end{aligned}$$

$$= 650 - 150$$

$$= 500 \text{ m}^2$$

$$\text{Area of the paint in one can} = 100 \text{ m}^2$$

$$\text{Number of cans required} = 500/100 = 5 \text{ cans.}$$

10 The side of the trapezium (roadside) be x cm.

The opposite parallel side = $2x$ m

$$h = 100 \text{ m}$$

$$\text{Area} = 10500 \text{ m}^2$$

$$\text{Area of trapezium} = \frac{1}{2} (a + b) \times h$$

$$10500 = \frac{1}{2} (2x + x) \times 100$$

$$2 \times 10500 = 3x \times 100$$

$$21000 = 300x$$

$$x = 70 \text{ m}$$

$$\text{So, } AB = 2x = 2 \times 70 = 140 \text{ m}$$

Hence, the required length = 140 m.

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KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION

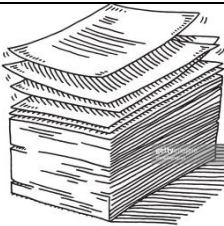
COPETENCY BASED QUESTIONS

CLASS: VIII

NAME OF CHAPTER : 10 Exponents and Powers

	MCQ
Q1	The value of m for which $2^m \div 2^{-4} = 4^5$ (a) m=1 (b) m= 2 (c) m=3 (d) m=6
Q2	Very large numbers can be expressed in standard form by using__exponents (a) Positive (b) negative (c))Positive and negative (d)none of these
Q3	The multiplicative inverse of $(-7)^{-2} \div (90)^1$ is (a) $(-7)^2 \times (90)^1$ (b) $-(7)^{-2} \times (90)^{-1}$ (c) $-(7)^2 \div (90)^{-1}$ (d) $(-7)^2 \times (90)^{-1}$
Q4	If $5^{3x-1} \div 25=125$, Then the value x is (a) 1 (b) 2 (c) 3 (d) 4
Q 5	Very small numbers can be expressed in standard form using____exponents. (a) Positive (b) negative (c))Positive and negative (d)none of these

Q 6	Find the Multiplicative inverse of 3^{25} (a) $1/3^{-25}$ (b) 3^{25} (c) 3^{-25} (d) $1/3^{25}$
	ASSERTION- REASON / VERY SHORT
Q 07	Assertion: The exponential form of 10000 is 10^4 . Reason: $10000 = 10 \times 10 \times 10 \times 10 = 10^4$ a) both assertion and reason are correct and reason is correct explanation for assertion b) both assertion and reason are correct but reason is correct explanation for assertion c) assertion is correct but reason is false d) both assertion and reason are false
Q 8	Assertion: The exponential form of 125 is 5^3 . Reason: $125 = 5 \times 5 \times 5 = 5^3$ a) both assertion and reason are correct and reason is correct explanation for assertion b) both assertion and reason are correct but reason is correct explanation for assertion c) assertion is correct but reason is false d) both assertion and reason are false
	CASE BASED/SOURCE BASED / PASSAGE BASED
Q 9	The diameter of the Sun is 1.4×10^9 m and the diameter of the Earth is 1.2756×10^7 m. how many times the diameter of the Sun to the diameter of the earth? 

Q10	In a stack there are 5 books each of thickness 20mm and 5 paper sheets each of thickness 0.016 mm. What is the total thickness of the stack. 

Ans:

1(d)

2(a)

3(a)

4(b)

5(b)

6(c)

7 (a)

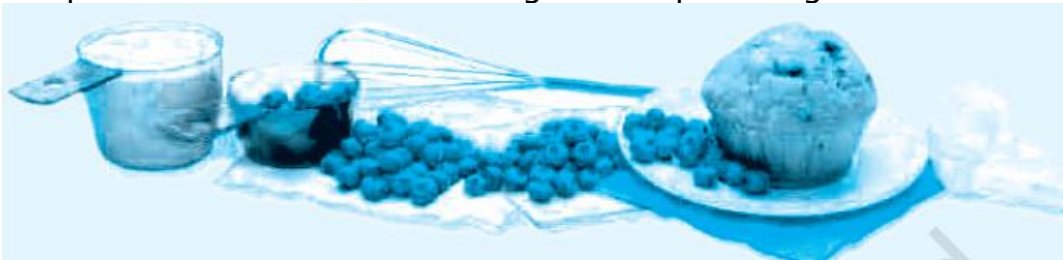
8 (a)

9 $1.4 \times 100 / 1.2756$, which is approximately 100

KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION
COMPETENCY BASED QUESTIONS
CLASS: VIII
CHAPTER 11

NAME OF CHAPTER DIRECT AND INVERSE PROPORTION

1	Which of the following vary inversely with each other? (a) speed and distance covered. (b) distance covered and taxi fare. (c) distance travelled and time taken. (d) speed and time taken.	1																																
2	15 men can complete the work in 40 hours. How many hours will it take for 6 men to complete the same work (A) 60 (B) 16 (C) 48 (D) 24	1																																
3	Out of the following, which example follows direct variation (A) <table border="1"><tr><td>30</td><td>3</td><td>10</td><td>22</td></tr><tr><td>11</td><td>110</td><td>30</td><td>15</td></tr></table> (B) <table border="1"><tr><td>15</td><td>30</td><td>60</td><td>45</td></tr><tr><td>25</td><td>50</td><td>100</td><td>75</td></tr></table> (C) <table border="1"><tr><td>45</td><td>44</td><td>24</td><td>32</td></tr><tr><td>55</td><td>54</td><td>42</td><td>23</td></tr></table> (D) <table border="1"><tr><td>11</td><td>22</td><td>33</td><td>44</td></tr><tr><td>22</td><td>44</td><td>55</td><td>66</td></tr></table>	30	3	10	22	11	110	30	15	15	30	60	45	25	50	100	75	45	44	24	32	55	54	42	23	11	22	33	44	22	44	55	66	1
30	3	10	22																															
11	110	30	15																															
15	30	60	45																															
25	50	100	75																															
45	44	24	32																															
55	54	42	23																															
11	22	33	44																															
22	44	55	66																															
4	In a model of a building complex, one building is 15 cm high when the actual height of the building 150m. If the model of club building is 12 cm, the actual height of the club building is (A) 60 m (B) 120cm (C) 120m (D) can not be calculated	1																																
5	A machine fills 240 milk bottles in 12 sec. How many bottles can be filled in 2 minutes? (A) 20 (B) 480 (C) 240 (D) 2400	1																																
6	If students in a class students are arranged for a photograph in 14 rows then number of students in a row will be 15, how many rows are required if students 21 are arranged in a row? (A) 210 (B) 280 (C) 5 (D) 10	1																																
7	Assertion (A) – 220 trucks can hold 10 metric tones. 10 trucks will hold 100 metric tonnes. Reasons (R) – A direct proportion shows the direct relation between two quantities. A) Both A and R are true and R is the correct explanation of A B) Both A and R are true but R is not the correct explanation of A C) A is true but R is false	1																																

	D) A is false but R is true	
8	Assertion (A) – The Cost of 10 metres of cloth is ₹1600 and 5 metres costs ₹ 800 Reasons (R) –A direct proportion shows the direct relation between two quantities. A) Both A and R are true and R is the correct explanation of A B) Both A and R are true but R is not the correct explanation of A C) A is true but R is false D) A is false but R is true	1
9	 Raghav visited his village in summer vacations with parents to village. His father showed the places in his village where he spent his childhood. He also showed him the jar of marbles he used to play with. He also asked him few GAMES using these marbles: (i) His father said, 'when I pick 5 marbles, you will take 2 marbles' If father picks 25 marbles, how many Raghav will have? (ii) Raghav picked up 48 marbles, how many his father would have? (iii) what kind of variation does it follow?	5
10	A recipe for a particular type of muffins requires 1 cup of milk and 1.5 cups of chocolates. She is using the recipe as a guide.  (i) How many cups of milk will she need to prepare muffins if she uses 7.5 cups of chocolates?. (ii) How many cups of chocolates will she need to prepare muffins if she uses 10 cups of milk.?. (iii) what kind of variation does it follow?	5

ANSWER KEY

1	(a) diagonals bisect each other				
2	(A) 60				
3	15	30	60	45	As rato is = $\frac{3}{5}$
	25	50	100	75	
4	(C) 120m				
5	(D) 2400				
6	(D) 10				
7	(D) A is false but R is true				
8	(A) Both A and R are true and R is the correct explanation of A				
9	(i)	10 marbles	[2]		
	(ii)	60 marbles	[2]		
	(iii)	Direct variation	[1]		
10	(i)	5 cups			
	(ii)	15 cups			
	(iii)	Direct			

KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION**COMPETENCY BASED QUESTIONS****CLASS: VIII****NAME OF CHAPTER : 12 FACTORISATION**

	MCQ
Q1	How many factors does $x(x+2)(y+3)$ has? (a) 2 (b) 4 (c) 3 (d) 6
Q2	Factorise $p^2 + 6p + 8$ (a) $(p + 2)(p + 4)$ (b) $(p + 4)(p + 4)$ (c) $(p + 2)p$ (d) $p(p - 4)$
Q3	State true or false. In general, any expression containing one or more terms with non zero coefficients and with variables having non-negative exponents is called a polynomial. (a) TRUE (b) FALSE
Q4	Factorise $12x + 36$ (a) $2(x+3)$ (b) $12(x+3)$ (c) $(x+3)$ (d) $12x$
Q 5	Find the common factors $6abc, 24ab^2, 12a^2 b$ (a) $6a$ (b) $6ab$ (c) $6b$ (d) ab
Q 6	Divide $-36y^3$ by $9y^2$ (a) y (b) $-4y$ (c) -4 (d) $-6y$
	ASSERTION- REASON / VERY SHORT
Q 07	Assertion : The factors of $2y(y+4)$ are 2, y , and $(y+4)$ Reason : 1 is a factor of every term (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.
Q 08	Assertion : $2(y + 5) = 2y + 5$

	Reason : When an expression enclosed in a bracket is multiplied by a constant outside, each term of the expression has to be multiplied by the constant (a) Both A and R are true and R is the correct explanation of A. (b) Both A and R are true but R is not the correct explanation of A. (c) A is true but R is false. (d) A is false but R is true.					
	CASE BASED/SOURCE BASED / PASSAGE BASED					
Q 09	Vishal's teacher gives him a list of identities and asks him to practice factorisation. Can you help him answer the following questions? <table><tr><th>IDENTITIES</th></tr><tr><td>$(a + b)^2 = a^2 + b^2 + 2ab$</td></tr><tr><td>$(a - b)^2 = a^2 + b^2 - 2ab$</td></tr><tr><td>$a^2 - b^2 = (a + b)(a - b)$</td></tr><tr><td>$(x + a)(x + b) = x^2 + (a + b)x + ab$</td></tr></table> 1. Are all the identities correct? (a) Yes (b) No (c) Can't say anything (d)none of these 2. Using the above identities, solve $x^2- 6x + 8$ (a) $(x+4)(x+2)$ (b) $(x+4)(x-2)$ (c) $(x-4)(x-2)$ (d) $(x-4)(x+2)$ 3. Using the above identities, solve $x^4-2x^2y^2+y^4$ (a) $(x^2-y^2)^2$ (b) $(x^2+y^2)^2$ (c) (x^2-y^2) (d) none of these	IDENTITIES	$(a + b)^2 = a^2 + b^2 + 2ab$	$(a - b)^2 = a^2 + b^2 - 2ab$	$a^2 - b^2 = (a + b)(a - b)$	$(x + a)(x + b) = x^2 + (a + b)x + ab$
IDENTITIES						
$(a + b)^2 = a^2 + b^2 + 2ab$						
$(a - b)^2 = a^2 + b^2 - 2ab$						
$a^2 - b^2 = (a + b)(a - b)$						
$(x + a)(x + b) = x^2 + (a + b)x + ab$						
Q 10	Poonam is appearing for a viva test. Her teacher asks her to factorise $x^2+13x+42$. Help her answer the following questions: 1. The above problem can be solved by: (a) Method of common factors (b) Regrouping terms					

	(c) Using identities (d) None of these 2. Find degree of given polynomial (a) 1 (b) 2 (c) 0 (d) Can't be determined 3. The final answer obtained is: (a) $(x+6)(x+7)$ (b) $(x+6)(x-7)$ (c) $(x-6)(x+7)$ (d) None of these
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ANSWER KEY

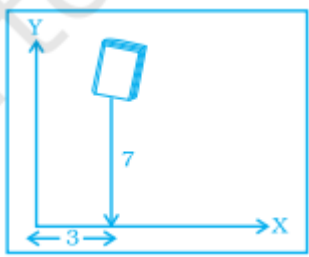
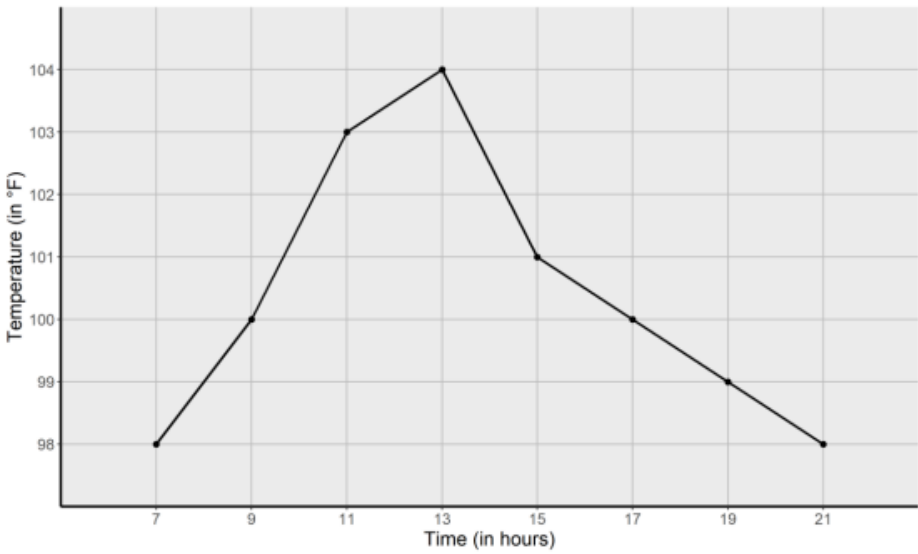
Q.NO	ANSWER
1	(c) 3
2	(a) $(p + 2)(p + 4)$
3	(a) TRUE
4	(b) $12(x+3)$
5	(b) $6ab$
6	(b) $-4y$
7	(b) Both A and R are true but R is not the correct explanation of A.
8	(d) A is false but R is true.
9	1 (a) Yes 2 (c) $(x-4)(x-2)$ 3 (a) $(x^2-y^2)^2$
10	1 (c) Using identities 2 (b) 2 3 (a) $(x+6)(x+7)$

KENDRIYA VIDYALAYA SANGATHAN AHMEDABAD REGION

COPETENCY BASED QUESTIONS

CLASS: VIII

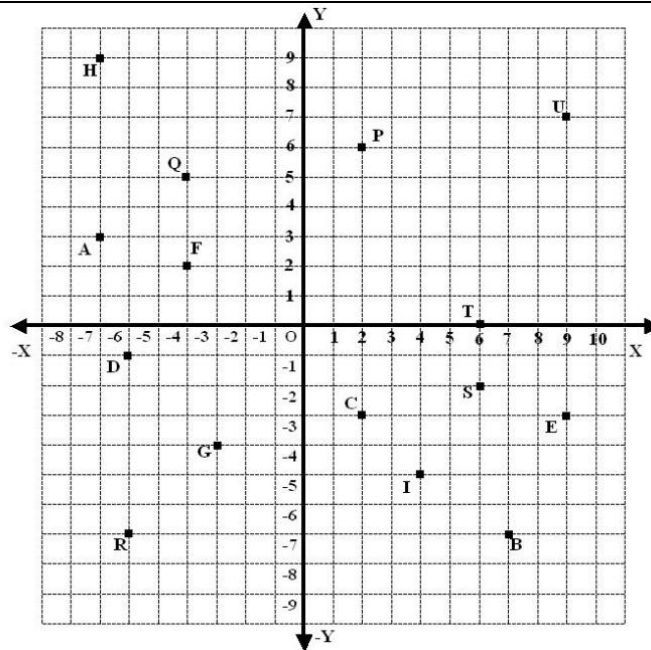
NAME OF CHAPTER : 13 INTRODUCTION TO GRAPHS

MULTIPLE CHOICE QUESTIONS	
Q-1	The coordinates of a point at a distance of 3 units from the x axis and 6 units from the y axis is (a) (0, 3) (b) (6, 0) (c) (3, 6) (d) (6, 3)
Q-2	The point (3, 4) is at a distance of (a) 3 from both the axis (b) 4 from both the axis (c) 4 from the x axis and (d) 3 from x axis and 3 from y axis from y axis
Q-3	In the given figure the position of the book on the table may be given by  (a) (7, 3) (b) (3, 7) (c) (3, 3) (d) (7, 7)
Q-4	. A point which lies on both the axis is _____ (a) (0, 0) (b) (0, 1) (c) (1, 0) (d) (1, 1)
Q-5	Observe the temperature time graph and answer the following question. 

Choose the difference between the temperature at 7 hours and at 21 hours from the options below:
 A. 0°F B. 1°F C. 2°F D. 3°F .

SHORT ANSWER TYPE QUESTIONS

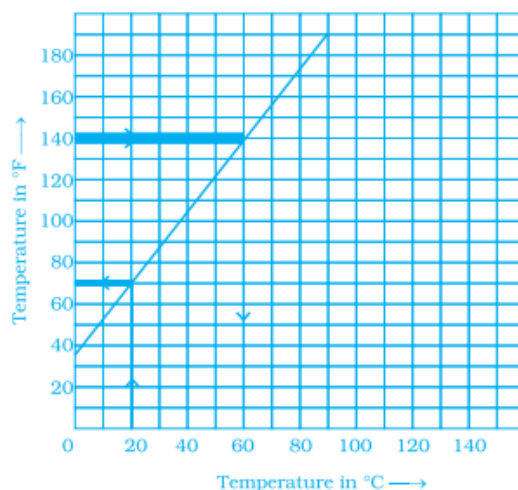
Q-6



- I. The coordinate of point E in the given graph is
 (a) $(9, -3)$ (b) $(-4, 2)$ (c) $(-3, -4)$ (d) $(-7, 9)$
- II. The coordinate of point H in the given graph is
 (a) $(9, -3)$ (b) $(-4, 2)$ (c) $(-3, -4)$ (d) $(-7, 9)$
- III. Name The points in I quadrant

Q-7

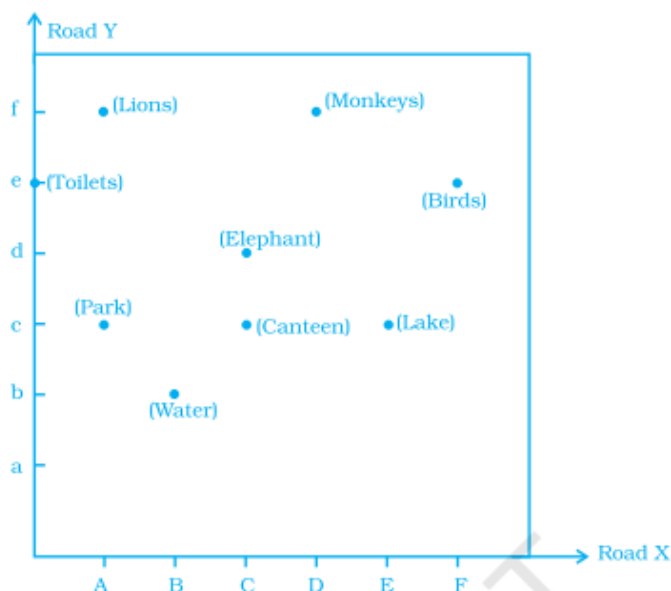
The following is a conversion graph of temperature in $^{\circ}\text{C}$ and $^{\circ}\text{F}$. Use the graph to answer the following questions.



- (a) Convert 140°F to $^{\circ}\text{C}$.
- (b) Convert 20°C to $^{\circ}\text{F}$

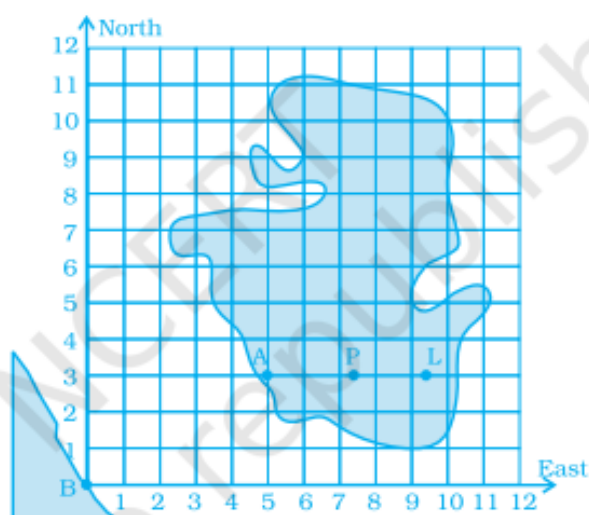
CASE BASED QUESTIONS

Q-8 Study the given map of a zoo and answer the following questions.



- Give the location of lions in the zoo.
- (D, f) and (C, d) represent locations of which animals in the zoo?
- Where are the toilets located?
- Give the location of canteen.

Q-9 This graph shows a map of an island just off the coast of a continent. The point labelled B represents a major city on the coast. The distance between grid lines represents 1 km. Point A represents a resort that is located 5 km East and 3 km North of Point B. The values 5 and 3 are the coordinates of Point A. The coordinates can be given as the ordered pair (5, 3), where 5 is the horizontal coordinate and 3 is the vertical coordinate.



- On a copy of the map, mark the point that is 3 km East and 5 km North of Point B and label it S.
Is Point S in the water or on the island? Is Point S in the same place as Point A?
- Mark the point that is 7 km east and 5 km north of Point B and label it C. Then mark the point that is 5 km east and 7 km north

	of Point B and label it D. Are Points C and D in the same place? Give the coordinates of Points C and D. (iii) Which point is in the water, (2, 7) or (7, 2)? Mark the point which is in water on your map and label it E. (iv) Give the coordinates of two points on the island that are exactly 2 km from Point A.
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ANSWER KEY

MULTIPLE CHOICE QUESTIONS	
Q-1	(d) (6, 3)
Q-2	(c) 4 from the x axis and 3 units from y axis
Q-3	(b) (3, 7)
Q-4	(a) (0, 0)
Q-5	A. 0°F
SHORT ANSWER TYPE QUESTIONS	
Q-6	I. (a) (9, -3) II. (d) (-7, 9) III. point P and U
Q-7	(a) 60 °C. (b) 70 °F
CASE BASED QUESTIONS	
Q-8	(a) (A,f) (b) Monkeys and Elephant (c) (0,e) (d) (C,c)
Q-9	i. S(3,5). on the island ii. C(7,5). D(5,7). iii, in the water (7, 2) iv. (3,3) and (7,3)