

-1  
CLASS-VII  
(MATHS ASSIGNMENT)

**CHAPTER -1 (Integers)**

Q:-1. Simply  $65 \div (-13) + (-72) \div (-8)$

[Ans: 4]

Q:- 2. Product of two integers is -437 . If one integer is 23, find the other .

Q:- 3. A shopkeeper earns a profit of Rs. 1 by selling a pencil and a loss of 20 paise by selling an eraser.

(i) In a given day he had a loss of Rs. 10. On this day, he sold 35 pencils. How many erasers were sold on this day.

(ii) Next day, he earn a profit of Rs. 25. On this day he sold 100 erasers. How many pencils did he sell.

[Ans: (i) 225 (ii) 45]

Q:- 4. Simplify:

(i)  $5 - \{3 - [2 - (2 \times (-3) + 1) + (3 - 5)]\}$

{Ans: 7}

(ii)  $7 - [6 - \{5 + (1 - 3 + 4)\}]$

{Ans 8}

Q:- 5. Seeing the poor and under privileged children in the neighborhood, a resident of Bharat Nagar decided to distribute 1 shawl and 1 blanket during winter to every needy person. The cost of shawl is Rs. 350 and cost of a blanket is Rs. 650.

(i) find the total number of shawls and blankets distributed if there are 82 houses contributing Rs. 500 each.

ii What value do you learn from this situation.

(Ans: 41 shawls, 41 blankets)

Q:- 6. Using suitable property evaluate the following :-

(i)  $8 \times 53 \times (-125)$

(ii)  $26 \times (-48) + (-48) \times (-36)$

(iii)  $15 \times (-25) \times (-4) \times (-10)$

(Ans:- (i) -53000 (ii) 480 (iii) -15000)

Q:- 7. Divide (- 125) by 25 and then add the quotient to the product of (- 30) and (- 3) .

Q:- 8. Given that  $a = (-10)$  ,  $b = 7$  and  $c = (-3)$  , verify that addition is commutative and associative . Also show that subtraction is neither commutative nor associative .

Q:- 9. What should be divided by (-7) to obtain 12 ?

Q:- 10 Subtract:

I(- 66) from (-34)

II318 from 0

III - 76 from 0

IV -56 from 144

V-153 from -240

**CHAPTER - II**  
**(Fractions and Decimals)**

Q:- 1. Simplify:-(a)  $48.19 - 7.723 + (11.03 + 0.003)$

(b)  $\{ (-7/12 ) \times (-3/14) \} + \{ (-3/5) \times (-6/15) \}$

(c)  $[2/3 - 1/2 + 1/4] - [1/3 + 2/5 - 4/15]$

Q:- 2. A pencil cost Rs. 1.25. How many pencils can be bought for Rs. 75?

(Ans:- 60)

Q:- 3. If 12 bags of rice weigh 126 kgs, then find the weight of  $3/2$  bags of rice.

(Ans: 15.750 kgs.)

Q:- 4. A man travels  $3/8$  of his journey by train,  $3/5$  of it by bus and walks the rest of the distance .If he walks 2 km ,how much distance he travels by bus?

(Ans: 48 km)

Q:- 5. Write the following as decimals:

(i)  $13/5$

(ii)  $7/9$

(iii)  $47/125$

(iv)  $133/8$

Q:- 6. What number should be subtracted from 30 to get 23.709.

(Ans: 6.291)

Q:- 7. Sheetal's age is  $2/3$  of the age of her brother.If brother's age is 45 years, how old is Sheetal?

Q:- 8. Arrange in ascending order

$7/9 , 12/5 , 1/21, 5/6$

Q:-9 Kareena has Rs. 45.65.She gets Rs. 15.8 from her father.She spent Rs. 39.5 on lunch.How much balance is she left with?

Q:-10 Divide:

(a) 0.64 by 0.4

(b) 0.0108 by 0.012

(c) 2.13204 by 3.26

**CHAPTER 3**  
**(Data Handling)**

Q:-1. Find mean and median of  
(a) First ten odd numbers  
(b) First seven multiples of 4

Q:-2. Give two examples of  
(a) Sure event  
(b) Impossible event

Q:-3. From Numbers 1,3,5,7,8,11,15 a number is to be picked up at random, what is the probability of choosing a number  
(a) less than 8  
(b) 5 or more

Ans: [(i)  $\frac{4}{7}$  (ii)  $\frac{5}{7}$ ]

Q:-4. Mean of 9 numbers is 14. One number 12 was excluded. Find the new mean.  
[Ans: 14.25]

Q:-5. The marks (Out of 100) obtained by a group of students in science test are  
85, 76, 90, 85, 39, 48, 39, 95, 81, 75

Find

- (i) Range of the marks obtained
- (ii) Mean marks obtained
- (iii) Mode and Median of the data

Q:- 6  
Sport

Cricket  
Basket Ball  
Swimming  
Hockey  
Athletics

Watching

1240  
470  
510  
430  
250

Participating

620  
320  
520  
250  
110

Draw double bar graph choosing an appropriate scale

(i) Which sport is the most popular?

(ii) Which is more preferred- watching or participating in sport?

Q7:- For each of the following data , draw Frequency table and then the Bar graph

I Ages ( in years ) of students of a class

II 14 ,13 ,12 , 14 ,15 ,13 ,14, 16 ,15 ,14

III 13 ,12 ,13 ,12 ,15 ,14 ,14 ,13 ,13 ,12

IV 13 ,14 , 15, 12, 12, 13, 13, 14, 15, 15 .

V Heights ( in cm) of students of a class

VI 160 ,158 ,165, 159 ,160 ,160, 158 ,158 ,159 ,165

VII 158 ,159, 165 ,158 ,158 ,159 ,160 ,165 ,159 ,165

VIII 161 ,160 ,156 , 158 , 159 , 160 ,161 , 165 , 156 , 161 .

IX

**CHAPTER - 4**  
**(Simple equations)**

Q:- 1. Solve the following equations and verify your answer.

(i)  $3(x + 7) = 18$

(ii)  $2(x - 1) = x + 2$

(Ans: -1, 4)

Q:-2. If 5 is added to twice a number the result is 29. Find the number.

(Ans: -12)

Q:- 3. Solve:-

(i)  $(2x/3) - 5 = (3x/4) + 1$

(ii)  $(2p - 1)/2 + \frac{1}{4} = (p+1)/6$

(iii)  $(3m-5)/2 = (2m-5)/3$

Q:- 4. The length of a rectangular floor is 5 m longer than the width. If the perimeter of the floor is 86m, find the dimensions of the floor.

(Length= 19m)

Q:- 5. Find two consecutive even numbers whose sum is 73.

(Ans: 36, 37)

Q:- 6. Sunil's father is 3 times as old as Sunil. After 10 years his age will be twice the age of his son. Find their present ages.

(Ans: 10 years, 30 years)

Q:- 7. Thrice a number when decreased by one fourth of a number gives 11. Find the number.

(Ans: 4)

Q:- 8. Two sides of an isosceles triangle are  $(3x-1)$  units and  $(2x+2)$  units. Third side is  $2x$  units. Find  $x$  and perimeter of triangle.

(Ans: 3, 22 units)

Q:- 9. One -third of a number exceeds one -sixth of the number by 4. Find the number?

Q:- 10. The cost of 2 tables and 5 chairs is Rs. 2300. If a table cost Rs. 30 more than a chair find the price of each [Ans: Rs. 320, Rs. 350]

Q:- 11. In a lottery, a total of 200 prizes are to be given. A prize is either of Rs. 500 or Rs. 100. Find the number of each type of prizes if the total prize money is Rs. 50,000 [Ans: 75 and 125]

## CHAPTER -5 LINES AND ANGLES

Q:-1 Find the value of  $x$  in each of the following cases.

{Ans: (a) 35?, (b) 84?, (c) 28?}

Q:-2. Two supplementary angles are in the ratio of 2:7, find the angles

[Ans: 40?, 140?]

Q:-3. Two complementary angles are  $(x+4)$  and  $(2x-7)$ , find the value of  $x$ .

[Ans: 35?, 55?]

Q:- 4. Find the values of ' $x$ ', ' $y$ ' and ' $z$ ' in the given figure.

[Ans: [  $x = 45?$ ,  $y = 135?$ ,  $z = 45?$ ],

Q:- 5. In the adjoining figure, the value of ' $x$ ' that will make AOB a straight line is:

(i)  $x=40?$

(ii)  $x=35?$

(iii)  $x=30?$

(iv)  $x=25?$

Q:- 6. In the adjoining figure, lines AB and CD intersect at O. If  $L1 + L3 = 78?$  find the measure of  $L2$ . (Ans:  $L2=141?$ )

Q:- 7. In the given figure, find the value of ' $x$ ' and ' $y$ ' if  $PQ \parallel BC$

(Ans:  $x=50?$ ,  $y=60?$ )

Q:- 8. Find the values of ' $x$ ', ' $y$ ' and ' $z$ ' if  $l \parallel m \parallel n$  and  $p \parallel q$

(Ans:

$x=65?$ ,  $y=115?$ ,  $z=115?$ )

Q:- 9. In the given figure, show that  $AB \parallel CD$

Q:-10. Calculate the measure of each lettered angle in the following figure.

(Ans:  $p=135?$ ,  $q=65?$ ,  $r=115?$ )

**CHAPTER - 6**  
**Triangles and its properties**

- Q:- 1. A picture frame is of 80 cm by 60 cm. Find its diagonal. (Ans: 100 cm)
- Q:-2. A pilot is flying south west. After flying 50 km, he knows that he is 30 km west from the starting point. How far south from the starting point. (Ans: 40 km)
- Q:-3. Is it possible to have a triangle with the following sides?  
a) 2cm, 3cm, 5cm  
b) 4.5 cm, 2.5 cm, 8 cm  
c) 10.2 cm, 5.8 cm, 4.5 cm  
d) 3.4 cm, 4.7 cm, 6.2 cm  
Ans: {N, N, Y, Y}
- Q:-4. If the length of two sides of a triangle are 7 cm and 10 cm. What can be the length of the third side. Ans: { $3 < x < 17$ }
- Q:-5. Find the area and perimeter of a rectangle whose length is 15 cm and diagonal is 17 cm. (Ans: 120 cm, 46 cm)
- Q:-6. If the diagonals of a rhombus measure 10 cm and 24 cm. Find the perimeter. (Ans: 52 cm)
- Q:-7. If the two acute angles of a right triangle are in the ratio of 7:8, find these angles (Ans: 42?, 48?)
- Q:-8. If the angles of a triangle are  $(3x)$ ,  $(2x-7)$  and  $(4x-11)$ , then find the value of  $x$ . {Ans: 22?}
- Q:-9. In an isosceles triangle, the vertical angle is 15 more than each of its base angles. Find all the angles of the triangle. {Ans: 55?, 55?, 70?}

**CHAPTER 13**  
**EXPONENTS AND POWERS**

Q:-1. Fill in the blanks:-

(a)

$$2^0 \times 3 =$$

(b)

$$12^5 \times 12^2 \times 12^8 =$$

(c)

$$(-1)^{2017} \times (-9)^2 =$$

(d)

$$([-8]^3)^2 =$$

(e)

$$3^5 \times 8^5 =$$

(f)

$$18^3 / 9^3 =$$

(g)

$$13^2 \times (-1)^6 =$$

(h)

$$(-30)^3 \times 10^2 =$$

(i)

$$5^0 \times 6^0 \times 7^0 =$$

(j)

$$(-2)^x = 128, \text{ then } x =$$

Q:- 2. Write the following in exponential form with prime number as a base.

(a)  $(-8)^3$

(b)  $(27)^2$

Q:-3. Evaluate

- (a)  $3^4 \times 9$                       (b)  $2^6 \times 10$   
(c)  $5^2 \times 25$                       (d)  $4^3 \times 2^2$

Q:-4. Simplify the following

- (a)  $(27)^3 \div (9)^2$                       (b)  $(2^0 \times 5^0 \times 8^0) / (2^0 + 5^0 + 8^0)$   
(c)  $(12^4 \times 9^3 \times 4) / (6^3 \times 8^2 \times 27)$

Q:-5. Simplify

- (a)  $(3^0 + 8) \div (3)^5$                       (b)  $((5^2)^3 \times 5^4) / 5^7$

Q:-6. Write the following in standard form

- (a) 5762                      (b) 370000000  
(c) 7523000000                      (d) 362.78

Q:-7. Write the following in their usual form

- (a)  $4.00072 \times 10^7$                       (b)  $3.9 \times 10^4$   
(d)  $6.025 \times 10^3$                       (d)  $1.2 \times 10^{11}$

Q:-9. The star Sirius is about  $8.1 \times 10^{13}$  Km from Earth . Assuming that light travels at  $3 \times 10^5$  Km/sec. Find how long light from Sirius takes to reach earth .

Q:-10. Find the value of x –

- (a)  $(-6)^x = -216$                       (c)  $(-4)^x = 4096$   
(b)  $5^x = 625$                       (d)  $(-2)^x = 64$

**CLASS - VII**

**SA II**

**Chapter - 9 (Rational Numbers)**

Q:- 1. Find x such that  $5x/27$  and  $45/81$  are equivalent rational number.

Q:-2. Arrange the rational numbers  $(-6/7)$ ,  $5/21$ ,  $-3/14$ ,  $4/7$  in descending order.

Q;-3. Rahul walks  $2/3$  km from a place P towards east and then from there 1.5 km towards west. What is his position now from P?

Q:-4. What should be added to  $(-13/4 + 3/8)$  to get 1?

Q:- 5. Subtract the sum of  $-4/5$  and  $3/15$  from the sum of  $-2/7$  and  $11/21$

Q:-6. A bus is moving at an average speed of 66 km/h.  
How much distance will it cover in  $7/5$  hours?

Q:- 7. The product of two rational number is  $(-1/26)$ . If one of the numbers is  $8/39$ , find the other.

Q:- 8. How many pieces, each of length  $3\frac{3}{4}$  m, can be cut from a rope of length 30m?

Q:- 9. Find 4 rational numbers between  $(-5/11)$  and  $3/11$  & plot than on number line.

Q.10. Simplify :-

I  $\{(-8) \times 1/5\} + [6/11 - (-1/11)] - \{-3/5 \times 1/7\}$

II  $[(-5)/6 - 1/3] / [2/3 - (6/5)]$

**CHAPTER 10**  
**PRACTICAL GEOMETRY**

- 1 Draw a line AB. Draw a line PQ perpendicular to it. Mark a point Y on PQ such that Y is 5 cm from AB. Through Y draw a line parallel to AB.
- 2 Construct a triangle PQR in which PQ = 5.2 cm, QR = 5.2 and angle Q = 30°. Measure angle R. What type of triangle is this?
- 3 Construct a triangle ABC in which AB = 7 cm, angle A = 45°, angle C = 75°
- 4 Construct a right-angled triangle one side of which measures 3.5 cm and the length of whose hypotenuse is 6 cm.
- 5 Construct a  $\Delta ABC$  in which BC = 4.3 cm, angle C = 45° and AC = 6.5 cm.
- 6 Is it possible to construct a triangle whose sides are 5.5 cm, 4.5 cm and 10 cm? If not, why?
- 7 Check whether a  $\Delta ABC$  can be constructed in which AB = 6 cm, angle A = 105° and angle B = 80°. If not, give reason.

**CHAPTER 11**  
**PERIMETER AND AREA**

- 1 Find area of a parallelogram whose base is 5m 60 cm and height is 75 cm.
- 2 Find the height of a parallelogram whose area is 54 cm and base is 15 cm.
- 3 In a parallelogram AB is parallel to CD, AB= 18 cm, BC= 12 cm, AL is perpendicular to DC and AM is perpendicular to BC. If AL= 6.4 cm, find the length of AM.
- 4 Find area of a triangle whose base is 42 cm and height is 35 cm.
- 5 Find the base of a triangle whose area is  $90 \text{ cm}^2$  and height is 12 cm.
- 6 In the given figure, ABCD is a rectangle in which AB = 40 cm and BC = 24 cm. If P, Q, R, S are midpoints of AB, BC, CD and DA respectively, find the area of the shaded region.
- 7 The circumference of a circle is 364 cm, find its area.
- 8 A square field of side 78 cm is to be fenced with barbed wire that has to go around the boundary four times. How much wire will be required? What will be the cost of fencing if the wire cost Rs. 55 per meter and labour charges are Rs. 2150?
- 9 Find the cost of planting grass in a circular lawn of radius 21 m at the rate of Rs. 15 per sqm. Also find the cost of fencing the lawn at the rate of Rs. 5 per m.
- 10 A rectangular grassy plot is 112 m long and 78 m broad. It has a 2.5 m wide gravel path all around it on the inside. Find the area of the path and the cost of constructing it at Rs. 120 per  $\text{m}^2$ .
- 11 A rectangular lawn 70 m by 50 m has two cross roads each 5 m wide, running through its middle, one parallel to its length and the other parallel to its breadth. Find the cost of constructing the roads at Rs. 120 per  $\text{m}^2$

**CHAPTER - 12**  
**ALGEBRAIC EXPRESSIONS**

- 1 Write algebraic expressions for the following:-
  - (a) The sum of the square of x and cube of y.
  - (b) The product of p and q subtracted from the sum of x and y.
- 1 Identify the terms and their factors (by tree diagram or tabular form):-
  - (a)  $2x^2+3x-11$
  - (b)  $5ab-3a^2-5b^2$

1 Write the coefficient of

(a)  $y^2$  in  $2y-11-5y^2$

(b)  $x$  in  $2x + 5$

1 Classify the following as monomial, binomial and trinomial

(a)  $3x - 7y$  (b)  $100$  (c)  $7x^2-3x+5$

5. (a) Write a monomial in variable  $y$ .

(b) Write a binomial in variable  $x$ .

6. Simplify by combining like terms

(a)  $7x^2+11xy-7-23xy+11x^2+10-35x^2$

(b)  $-a^3+ab-b^2+7ab-16ab+a^3-36b^2$

7. Add  $13x^3+49xy-33y^2-12x^2$  and  $-15x^2-xy-17y^2+39$

8. Subtract  $5ab-6a-3b$  from  $-11ab-5a+7b$

9. From the sum of  $3x + 2y - 9$  and  $2x - 6y + 2$ , subtract the sum of  $4x - 9y - 1$  and  $-3x + 8y + 7$ .

10. If  $A = 3x^2+5x-7, B=7x^2-11x+9, C=13x^2-6x+17$ , find

(a)  $A + B + C$  (b)  $A + B - C$  (c)  $A - B - C$  (d)  $A - B + C$

11. Simplify and then find the value when  $a = (-1), b = 2, c = (-3)$

(a)  $a^3-2ab+11b^2-13a^2$

(b)  $abc+12ab-a+b$

12. The perimeter of a triangle is  $5xy+7x^2-13y$ . If its sides are  $2xy-13$  and  $17x^2+5$ . Find the third side of the triangle.

## CHAPTER - 7

### CONGRUENCE OF TRIANGLES

Q:-1. If  $\triangle ABC \cong \triangle PQR$ , what is the measure of  $\angle Q$  if  $\angle B = 75^\circ$ ?

Q:-2. If  $\triangle PQR \cong \triangle XYZ$ , what is the measure of  $a$ ? Also mention the congruence rule applicable?

Q:-3. In figure, AD is the bisector of  $\angle A$  such that  $AD \perp BC$  (i) Is  $\triangle ABD \cong \triangle ACD$ ? Give reasons (ii) Is  $\triangle ABC$  an isosceles triangle? Give reason.

Q:-4. In figure,  $AB \perp QR$ ,  $AC \perp QP$  and  $QC \perp QB$

(i) Is  $\triangle AQB \cong \triangle AQC$ ? Give reason.

(ii) Which angle is equal to  $\angle AQB$ ?

Q:-5. Find the value of  $x$  if  $\triangle PQR \cong \triangle PSR$

Q:-6. Check whether the given pair of triangles are congruent? If yes, write the result in symbolic form? Mention the three equal parts and also the congruence rule applicable.

## CHAPTER-8

### COMPARING QUANTITIES

Q:-1. The length of a playground is 80m 50cm and breadth is 63m. Find the ratio of:

(a) length to breadth (b) breadth to length

(c) length to perimeter

Q:-2. In a cricket match Dhoni and Dravid scored 185 runs. If their score was in the ratio 18:19, how many runs did each of them score?

Q:-3. A car travels 72 km on 6 litres of petrol.

(a) How far will it go on 13 litres of petrol?

(b) How much petrol will be needed to go 108 km?

Q:-4. Convert (a) 1:2:5 (b) 2:5:9 to percentage.

Q:-5. If  $x\%$  of 36 is 45, find  $x$ ?

Q:-6. Express as a fraction in simplest form and as a decimal.(a)33%

(b)12.5%

Q:-7. In an examination 17% of the students fail. What percentage of students pass? How many students will pass if 900 students appear in the examination?

Q:-8. The price of a car increases from Rs. 1,75,000 to Rs. 1,85,000. Find the percentage increase?

- Q:-9. Rohan bought 20 pairs of shoes at Rs. 300 per pair. He sold 15 pairs at Rs. 350 per pair and the remaining at Rs. 280 per pair. Find his gain or loss percent?
- Q:-10. A grocer bought 480 eggs at Rs. 18 per dozen. He sold them at a gain of 15%. Find the selling price of 100 eggs.
- Q:-11. A farmer borrowed Rs. 15,000 from a money lender at 13% per annum simple interest. At the end of 3 years he settled the account after paying Rs. 8000 cash and a motorcycle. Find the value of the motorcycle?
- Q:-12. Rajni borrowed Rs. 2000 from a friend for 2 years at 12% per annum and Rs. 3000 from the bank for 2 years at 15% per annum. How much total interest did she pay?
- Q:-13. Nikhil borrowed some money from a moneylender at 10% p.a. He paid Rs. 3000 as interest after 2 years. How much money did he borrow?
- Q:-14. Out of her total monthly income, Mrs. Saxena spends 30% on house rent and 60% of the rest on household expenses. If she saves Rs. 6300 per month, what is her total monthly income?
- Q:-15. A man sold two radios at Rs. 4,800 each. On one he gains 20% and on the other he loses 20%. Find the gain or loss percent in the whole transaction?
- Q:-16. In what time will Rs. 3,600 amount to Rs. 4320 at 8% per annum simple interest?

## Summer Assignments

### CLASS VII (MATH)

1. To prepare a project file/charts/model on the topic of symmetry points to be covered.
  - Line symmetry
  - Rotational symmetry, order of symmetry
  - Symmetry in nature, architecture, alphabets, designs and others
2. Prepare a project file on any five mathematicians discussing
  - Their Life history
  - Discoveries/Inventions
  - Interesting anecdotes (Short stories) from their life.

### SA-II

3. Draw oblique and isometric sketches (on isometric sheet) of
  - (i) Cube
  - (ii) Cuboid
  - (iii) Any two other 3-D shapes
4. Prepare four sets of tangrams using pastel sheets and paste four different shapes using them in lab file.

