

# BRAIN INTERNATIONAL SCHOOL

## CLASS – VII

TERM – II

SUB :- MATHS REVISION SHEET

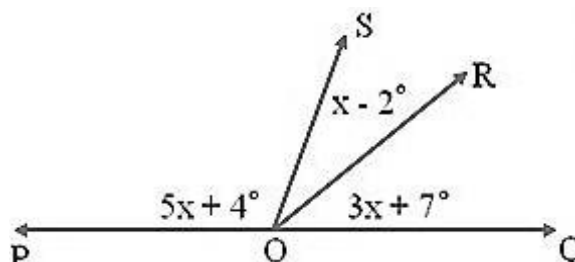
2018-19

### Chapter - 4 : Simple Equations

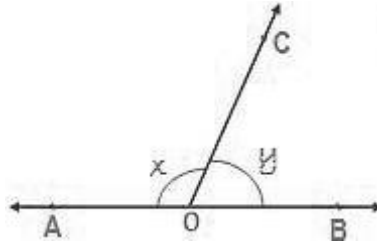
- Form equations for the given statements:
  - One fourth of a number minus 4 gives 4.
  - If you take away 6 from 6 times y, you get 60.
  - The number b divided by 5 gives 6.
  - The sum of three times a number and 11 is 32.
  - One fourth of the number is 3 more than 7.
  - Munna subtracts thrice the number of notebooks he has from 50, he finds the result to be 8.
  - If I take three fourths of a number and count up 3 more, I get 21.
- The length of a rectangular field is twice its breadth. If the perimeter of the field is 228 meters. Find the dimensions of the field.
- Find the number which when divided by 9 gives 45.
- Find the numbers such that one of them exceeds the other by 9 and their sum is 81.
- The sum of two consecutive odd numbers is 68. Find the numbers.
- If  $2(2n + 5) = 3(3n - 10)$ , then find n.
- Solve:
  - $2(x - 1) - 6x = 10 - 2(x - 4)$
  - $\frac{(2x - 5)}{(3x - 1)} = \frac{(2x - 1)}{(3x + 2)}$
  - $5x - 11 = 3x + 9$
  - $3y + 4 = 7 - 2y$
  - $9 - 2(x - 5) = x + 10$

### Chapter - 5 : Lines and Angles

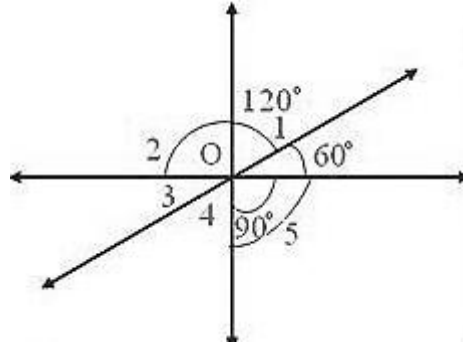
- Find the measure of an angle which is  $46^\circ$  less than its complement.
- If angles of measures  $(x - 2)^\circ$  and  $(2x + 5)^\circ$  are a pair of supplementary angles. Find the measures.
- POQ is a straight line and OS stands on PQ. Find the value of x and the measure of  $\angle POS$ ,  $\angle SOR$  and  $\angle ROQ$ .



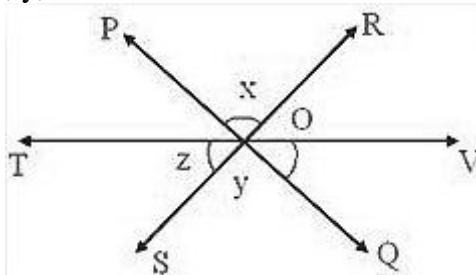
4. In the given figure,  $\angle AOC$  and  $\angle BOC$  form a linear pair if  $x - y = 60^\circ$ , find the value of  $x$  and  $y$ .



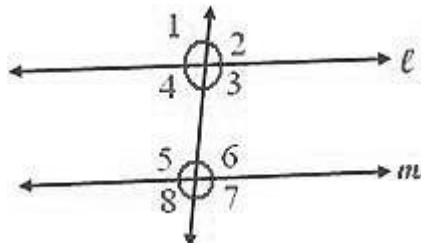
5. In the given figure, find the measure of unknown angles.



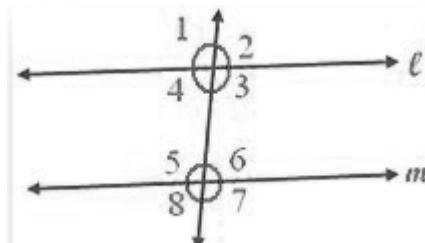
6. In the given figure, lines PQ, RS, TV intersect at O. If  $x : y : z = 1 : 2 : 3$ , then find the values of  $x$ ,  $y$ ,  $z$ .



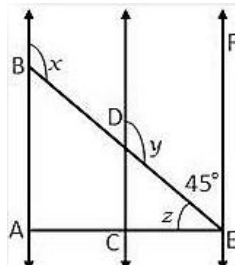
7. In adjoining figure  $l \parallel m$  is cut by the transversal  $t$ . If  $\angle 1 = 70^\circ$ , find the measure of  $\angle 3$ ,  $\angle 5$ ,  $\angle 6$ .



8. In adjoining figure  $l \parallel m$  is cut by the transversal  $t$ . If  $\angle 1 = 70^\circ$ , find the measure of  $\angle 3$ ,  $\angle 5$ ,  $\angle 6$ .

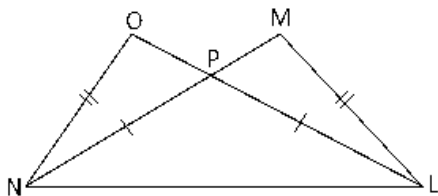


9. In the given figure  $AB \parallel CD \parallel EF$  and  $AE \perp AB$ . Also,  $\angle BAE = 90^\circ$ . Find the values of  $\angle x$ ,  $\angle y$  and  $\angle z$ .

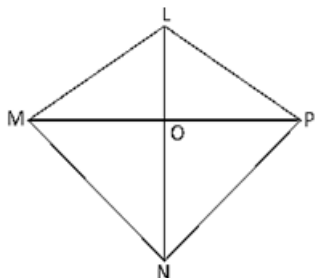


## Chapter - 7 : Congruence of Triangles

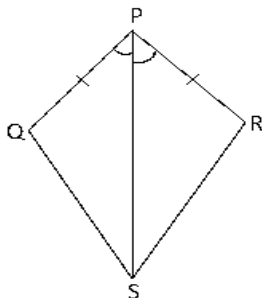
1.  $LM = NO$  and  $LO = MN$ . Show that  $\triangle LON \cong \triangle NML$ .



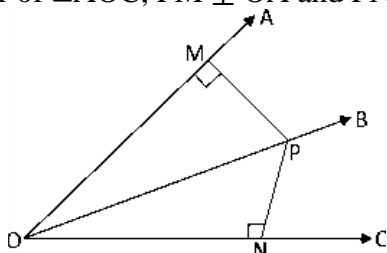
2. In a quadrilateral LMNP,  $LM = LP$  and  $MN = NP$ .  
Prove that  $LN \perp MP$  and  $MO = OP$  [O is the point of intersection of MP and LN]



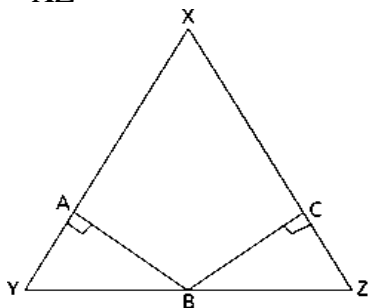
3. In the kite shown,  $PQ = PS$  and  $\angle QPR = \angle SPR$ .  
(i) Find the third pair of corresponding parts to make  $\triangle PQR \cong \triangle PSR$  by SAS congruence condition.  
(ii) Is  $\angle QRP = \angle SRP$ ?



4. Show that bisector of the vertical angle of an isosceles triangle bisects the base at right angle.  
5. If two diagonals of a quadrilateral bisect each other, prove that the quadrilateral will be parallelogram.  
6. OB is the bisector of  $\angle AOC$ ,  $PM \perp OA$  and  $PN \perp OC$ . Show that  $\triangle MPO \cong \triangle NPO$ .



7. In the adjoining figure, given that  $AB = BC$ ,  $YB = BZ$ ,  $BA \perp XY$  and  $BC \perp XZ$ .  
Prove that  $XY = XZ$



## Chapter - 8 : Comparing Quantities

1. Find what percentage of 96 is 83.
2. Find 76% of the number 66.
3. A bag contains 56 marbles, some black and some blue. The ratio of black marbles to blue ones is 6 : 2. How many blue marbles are there?
4. Convert the decimals to per cent: 0.019
5. On selling of fan for ₹ 810, Sam gains 8%. For how much did he purchase it?
6. By selling a Jeans for ₹ 432, John loses 4%. For how much should John sell it to gain 6%?
7. A dealer purchased a washing machine for ₹ 7660. He allows a discount of 12% on its marked price and still gains 10%. Find the marked price of the machine.
8. A television set was bought for ₹ 3900. ₹ 200 was spent on transportation and ₹ 900 on repair. It was sold at a loss of 10%. Find the S.P. of television.
9. In how much time dose ₹ 500 invested at the rate of 8% p.a. simple interest amounts to ₹ 580.
10. At what rate per cent per annum will a sum triple itself in 12 years?

## Chapter - 9 : Rational Numbers

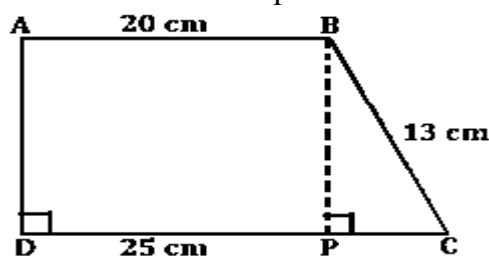
1. Express  $\frac{-36}{48}$  as a rational number with denominator 4.
2. Find 'x' such that  $\frac{-3}{8}$  and  $\frac{x}{-24}$  are equivalent rational numbers.
3. List five rational numbers between  $\frac{-4}{5}$  and  $\frac{-2}{3}$ .
4. Arrange  $\frac{4}{-9}$ ,  $\frac{-5}{12}$ ,  $\frac{7}{-18}$  and  $\frac{-2}{3}$  in descending order.
5. Simplify:  $\frac{-9}{11} + \frac{2}{3} - \frac{-3}{4}$
6. What should be added to  $(\frac{-13}{4} + \frac{-3}{8})$  to get 1?
7. A bus is moving at an average speed of  $46\frac{2}{3}$  km/h. How much distance will it cover in  $2\frac{2}{5}$  hours?
8. Simplify :  $(\frac{6}{55} \times \frac{-22}{9}) - (\frac{26}{125} \times \frac{-10}{39})$
9. The cost of 15 pencils is ₹  $37\frac{1}{2}$ . Find the cost of each pencil

## Chapter - 10 : Practical Geometry

1. Given a line  $\ell$  and a point M on it. Draw a perpendicular MP to  $\ell$  where MP = 5.2cm and a line q parallel to  $\ell$  through P.
2. Construct a triangle PQR such that PQ = 6cm, QR = 7cm and PR = 4.5cm.
3. Draw an isosceles triangle with each of its equal sides of length 3cm and the angle between them as  $45^\circ$ .
4. Construct a right-angled triangle whose hypotenuse measures 5cm and one of the other sides measures 3.2cm.
5. Construct a triangle triangle ABC in which BC = 5.8cm,  $\angle B = \angle C = 30^\circ$ . Measure AB and AC. What do you observe?

## Chapter - 11 : Perimeter and Area

1. A floor of the room 8 m long and 6 m wide is to be covered by square tiles. If measure of each side of square tile is 0.8 m, find the number of tiles required to cover the floor. Also, find the cost of tiling at the rate of ₹ 7 per tile.
2. The length and breadth of the rectangle park are in the ratio 5 : 4 and its area is 2420 m<sup>2</sup>, find the cost of fencing the park at the rate of ₹ 10 per metre.
3. How many envelopes can be made out of a sheet of paper 100 cm by 75 cm, supposing 1 envelope requires 20 cm by 5 cm piece of paper?
4. A square flowerbed is surrounded by a path 10 cm wide around it. If the area of the path is 2000 cm<sup>2</sup>, find the area of the square flower-bed.
5. The base of the parallelogram is thrice its height. If the area is 192 cm<sup>2</sup>, find the base and height.
6. Find the area of the rhombus having each side equal to 17 cm and one of its diagonals equal to 16 cm.
7. Find the altitude of the rhombus whose area is 315 cm<sup>2</sup> and its perimeter is 180 cm.
8. ABCD is a trapezium in which AB || CD, AD ⊥ DC, AB = 20 cm, BC = 13 cm and DC = 25 cm. Find the area of the trapezium.



9. The diameter of a wheel is 70 cm. How many times the wheel will revolve in order to cover a distance of 110 m?
10. Two circles have areas in the ratio 36 : 49. Find the ratio of their circumference.
11. From a circular sheet of radius 18 cm, two circles of radii 4.5 cm and a rectangle of length 4 cm and breadth 1 cm are removed; find the area of the remaining sheet.

## Chapter - 12 : Algebraic Expressions

1. Rohan's mother gave him ₹  $3xy^2$  and his father gave him ₹  $5(xy^2 + 2)$ . Out of his total money, he spent ₹  $(10 - 3xy^2)$  on his birthday party. How much money is left with him?
2. Find the perimeter of the rectangle whose length is  $(5x - y)$  metre and breadth is  $2(x + y)$  metre.
3. Find the value of the polynomial  $m^3 + n^3 + p^3 - 3mnp$  at  $m = 1$ ,  $n = -1$  and  $p = 2$ .
4. Subtract the sum of  $12ab - 10b^2 - 18a^2$  and  $9ab + 12b^2 + 14a^2$  from the sum of  $ab + 2b^2$  and  $3b^2 - a^2$ .
5. What should be added to  $3pq + 5p^2q^2 + p^3$  to get  $p^3 + 2p^2q^2 + 4pq$ ?
6. Add:  $w - vw$ ,  $vw - wu$  and  $wu - uv$ .
7. Write the terms and factors of the given expression using factor tree:
  - a)  $3xy^2 + 5y - x^2y$
  - b)  $-4pq - 6pq^2 + 8qp^2$

