PALLAVI MODEL SCHOOL

Our Branches: Bowenpally ★ Alwal ★ Boduppal

Estd. 1994

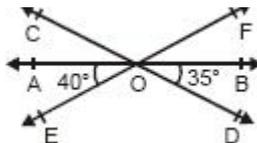| Name: _____ | Class: IX   Sec: ___ | Roll. No: ___   Date:25-09-19 |

Sub: Math   HOLIDAY HOMEWORK W/S

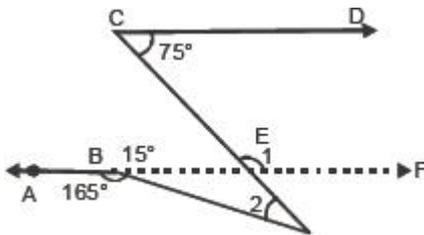1. Determine rational numbers p and q if

$$\frac{7+\sqrt{5}}{7-\sqrt{5}} - \frac{7-\sqrt{5}}{7+\sqrt{5}} = p - 7\sqrt{5}\,q\,.$$

2. Show that: $\dfrac{1}{3-\sqrt{8}} - \dfrac{1}{\sqrt{8}-\sqrt{7}} + \dfrac{1}{\sqrt{7}-\sqrt{6}} - \dfrac{1}{\sqrt{6}-\sqrt{5}} + \dfrac{1}{\sqrt{5}-2} = 5$

3. In the given figure, lines AB, CD and EF intersect at O.Find the measure of ∠AOC, ∠COF.

4. In the following figure AB || CD. Find the measure of ∠2.


5. A park in the shape of a quadrilateral ABCD has C = 90°. AB = 18 m, BC = 24 m, CD = 10 m and AD = 16 m. How much area does it occupy?

6.   A type manufacturing company kept a record of the distance covered before a tyre needed to be replaced. The table show the result of 1000 cases:

Distance (in km)	Less than 4000	4000 to 9000	9000 to 14000	More than 14000
Frequency	20	210	325	445

If a tyre of this company is bought, what is the probability that:

(i) It will need to be replaced before it has covered 4000 km?

(ii) It will last more than 9000 km?

(iii) It will need to be replaced after it has covered between 4000 km and 14000 km?

7.   In a GK test a student was given 50 questions one by one. He gave the correct answer for 30 questions. Find the probability of giving correct answers.

8. There are 50 tickets numbered from 1 to 50 in a box. Find the probability of drawing a ticket bearing prime number.

9. Two dice are thrown at the same time, find the probability that the sum of two numbers appearing on the top of the dice is more than nine.

10. What are the coordinates of a point whose ordinate is 5 and lying on the y-axis?

11. What is the abscissa of origin?

12. Write the vertices of the following quadrilateral OBCD.
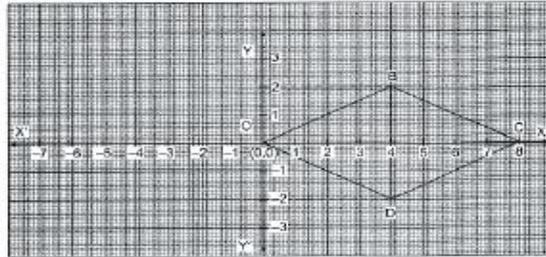
13. Draw the graph of the equation y=2x-3

14. The exterior angles obtained on producing the base of a triangle both ways are 100° and 120°. Find all the angles.

15. Can a triangle have two obtuse angles? Give reason for your answer.

16. If the mean of the following data is 18.75, then find the value of p.

x_i	10	15	p	25	30
f_i	5	10	7	8	2

17. Calculate the median of the following:

   a) 152, 155, 160, 144, 145, 148, 147, 149, 150

   b) 70, 40, 50, 100, 75, 75, 65 ,95

18. What is the mode of the observations 11, 8, 10, 8, 15, 6, 7, 8, 12, 7 and 9?

19. Construct a $\triangle ABC$ in which BC = 5.5 cm, $\angle B$ = 60° and sum of other two sides is 8.6 cm.

20. What is a minimum number of lines required to make a closed figure?

21. What is the measure of an angle which is 25° more than its compliment?

22. What is the value of $3\sqrt{3} + \sqrt{3}$?

23. Classify the following numbers as rational or irrational:

   (i) $\sqrt{23}$ (ii) $\sqrt{225}$
   (iii) 0.3796   (iv) 7.478478
   (v) 1.101001000100001...

24. Find the value of:

   a) $64^{1/2}$ b) $125^{-1/3}$

25. Simplify : $(4+\sqrt{3})(4-\sqrt{3})$