DEVESH TEDIA CLASSES

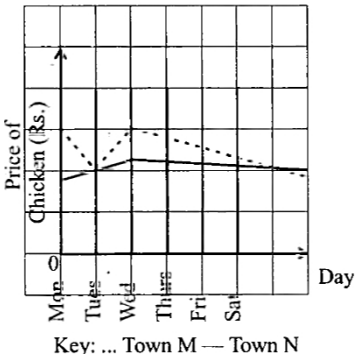
Above muthoot finance bank, awadhpuri, bhopal

WORKSHEET - INRODUCTION TO GRAPH

Class 08 - Mathematics

Section A

1. The line graph shows that price of chickens in towns M and N. On which days are the price of chickens the same in bothe the towns? **[1]**



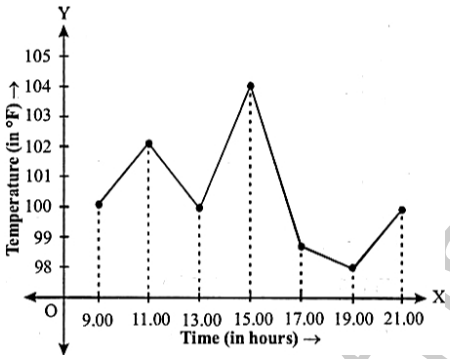
a) Wednesday and Friday only

b) Tuesday only

c) Tuesday and Friday only

d) Friday only

2. The information given by the graph is: **[1]**



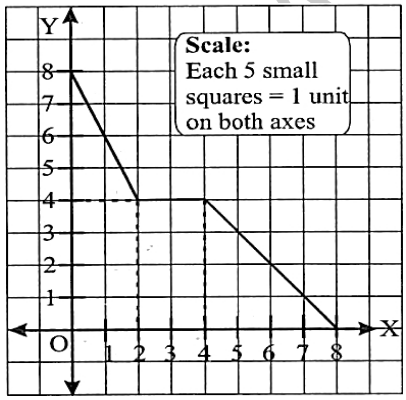
a) Temperature-time graph

b) Velocity-time graph

c) Time-temperature graph

d) Pressure-volume graph

3. **[1]**



Change in y when x changes from 2 to 4.

a) 2

b) 4

c) 0

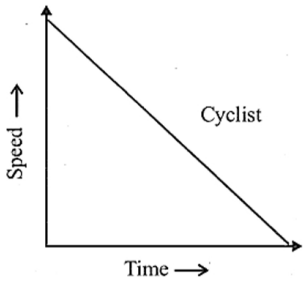
d) 3

4. A graph that displays data that changes continuously over periods of time is **[1]**

a) Line graph b) Pie chart

c) Histogram d) Bar graph

5. The given graph shows the progress of a cyclist during a ride. **[1]**



Which of the following describe the rider's progress over the period of time.

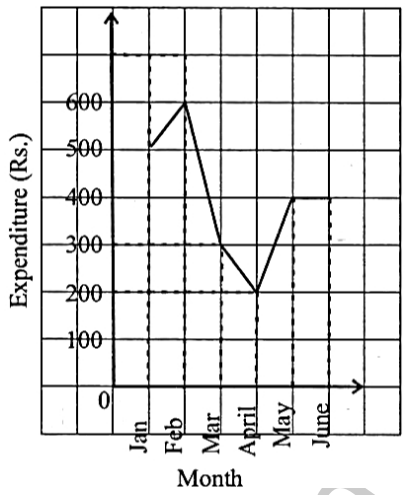
a) Cyclist moves with uniform speed.

b) As time passes the speed of cyclist decreases steadily.

c) As time passes speed of cyclist increases.

d) Speed of cyclist increases for a short time period and then increases very slowly.

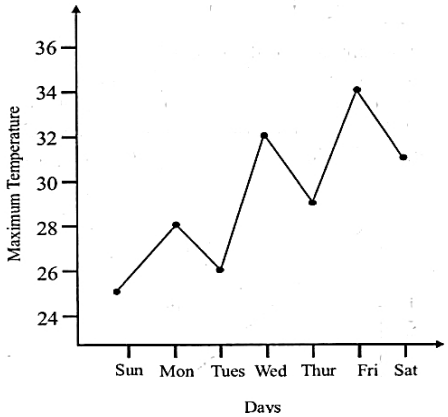
6. The line graph shows the monthly expenditure of the the Vasu family. The difference between their highest and lowest monthly expenditure is: **[1]**



a) ₹ 300 b) ₹ 400

c) ₹ 100 d) ₹ 200

7. Study the graph and answer the questions that follow. **[1]**



Which was the hottest day?

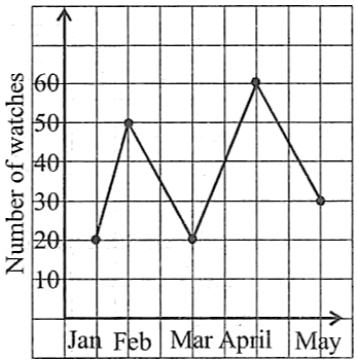
a) Sunday

b) Friday

c) Monday

d) Wednesday

8. The line graph shows the sale of watches in a company. How many watches were sold in those 5 months? **[1]**



a) 170

b) 180

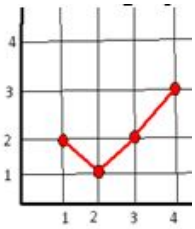
c) 160

d) 175

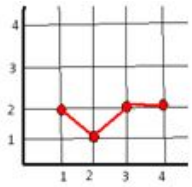
9. Plot a line graph for the following points (1, 2), (2, 1), (3,2), (4,3). **[1]**

a) None of these

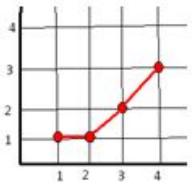
b)



c)



d)



10. Where does the point (0, -6) lie? **[1]**

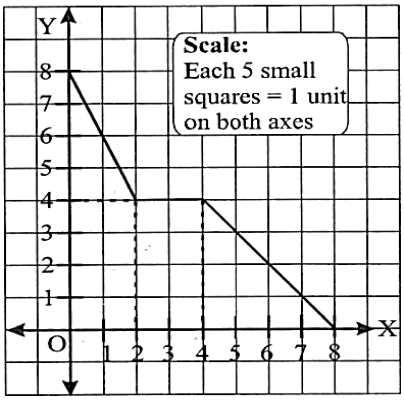
a) on x-axis

b) in 4th quadrant

c) on origin

d) on y-axis

11. Observe the adjoining graph and answer the following questions: **[1]**

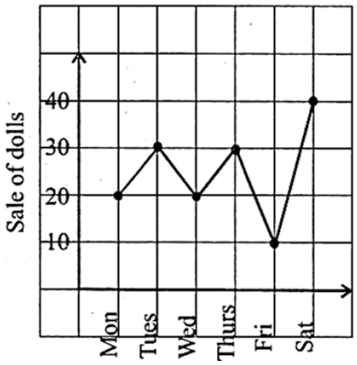


Changes in y when x changes from 0 to 2.

a) 4 b) 0

c) 2 d) -4

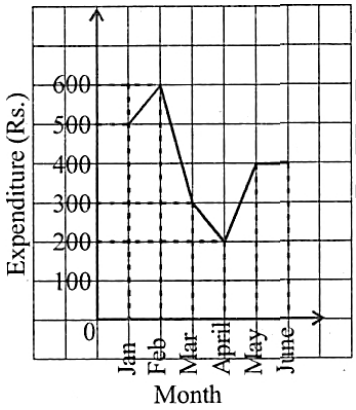
12. The line graph shows the sale of dolls by Suhas from Monday to Saturday on a particular week. Given that cost of one doll is ₹ 35, how much did Suhas receive from the sale of dolls on Saturday? **[1]**



a) ₹ 200 b) ₹ 1400

c) ₹ 700 d) ₹ 1050

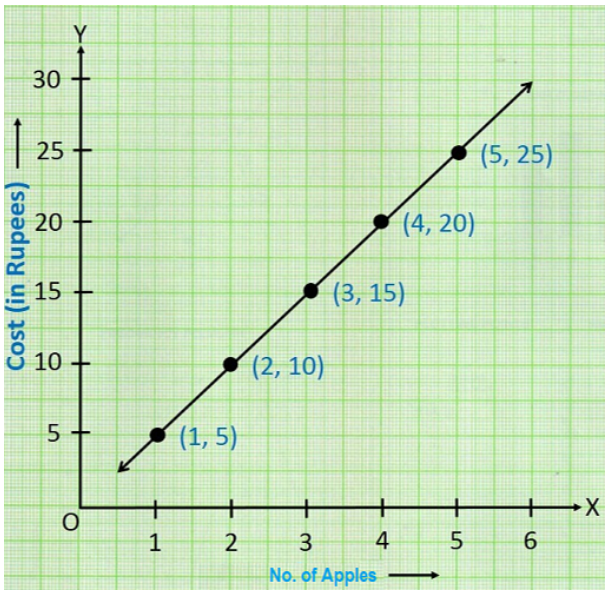
13. The line graph shows the monthly expenditure of Vasu family. The total expenditure over the first 3 months is: **[1]**



a) ₹ 1100 b) ₹ 320

c) ₹ 600 d) ₹ 1400

14. **Assertion (A):** Given is the line graph for the Number of apples and cost they are sold. **[1]**



Reason (R): The minimum apples sold are 1 are cost is Rs 5 also the maximum number of apples sold are 5 and cost is ₹25.

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.

15. **Assertion (A):** The coordinates of the origin are (0, 0). **[1]**

Reason (R): The abscissa of origin is 4 and the ordinate is 0.

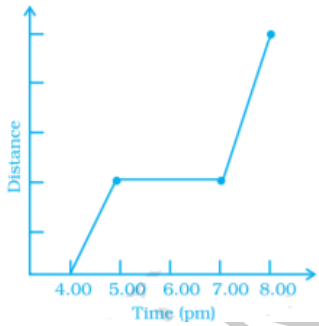
a) Both A and R are true and R is the correct explanation of A.

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 true.

16. The given graph shows Nisha's trip to a mall by a car. Observe the graph carefully and find what was she doing between 5 pm and 7 pm? **[1]**



a) Was not driving.

b) Driving back home.

c) Driving to the mall.

d) Not enough data to answer.

Section B

17. Draw a graph for the following. **[2]**

Distance in metres	5	10	15	20	25	30
Time in seconds	1	2	3	4	5	6

Is it a linear graph?

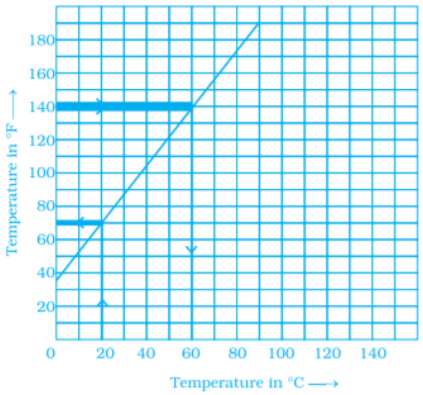
18. Plot the following points. Verify if they lie on a line. (1, 3), (2, 3), (3, 3), (4, 3) **[2]**

19. The following is a conversion graph of temperature in $^{\circ}\mathrm{C}$ and $^{\circ}\mathrm{F}$. **[2]**

Use the graph to answer the following questions.

a. Convert 140 $^{\circ}\mathrm{F}$ to $^{\circ}\mathrm{C}$.

b. Convert 20 $^{\circ}\mathrm{C}$ to $^{\circ}\mathrm{F}$



20. Consider this input/output table. **[2]**

Input	1	2	4	5	7
Output	2	5	11	14	20

(a) Graph the values from the table by taking Input along horizontal axis from 0 to 8 and Output along vertical axis from 0 to 24.

(b) Use your graph to predict the outputs for inputs of 3 and 8.

21. Ajita starts off from home at 07.00 h with her father on a scooter that goes at a uniform speed of 30 km/h and drops her at her school after half an hour. She stays in the school till 13.30 h and takes an auto-rickshaw to return home. The rickshaw has a uniform speed of 10 km/h. Draw the graph for the above situation and also determine the distance of Ajita's school from her house. **[2]**

Section C

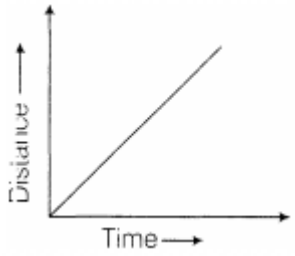
22. The cost of a notebook is Rs. 10. Draw a graph after making a table showing cost of 2,3,4... notebooks. Use it to find: **[3]**

i. the cost of 7 notebooks.

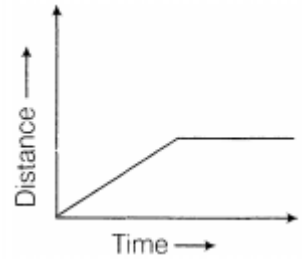
ii. the number of notebooks that can be purchased with Rs. 50.

23. Explain the situations represented by the following distance-time graphs. **[3]**

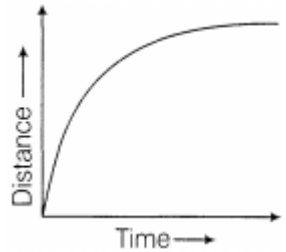
a.



b.



c.

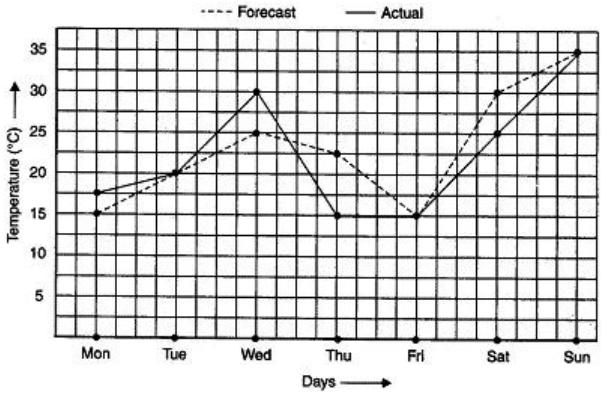


24. The following graph shows the temperature forecast and the actual temperature for each day of a week. **[3]**

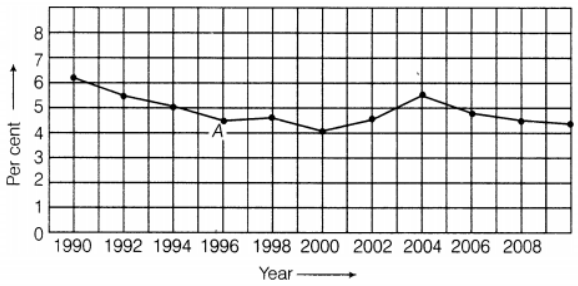
a. On which days was the forecast temperature the same as the actual temperature?

b. What was the maximum forecast temperature during the week?

c. What was the minimum actual temperature during the week?



25. This graph shows the percent of students who dropped out of school after completing high school. The point labelled A shown that, in 1996, about 4.7% of students dropped out. **[3]**



i. In which year was the drop out the rate highest? In which year was it the lowest?

ii. When did the percent of students who dropped out of high school first fall below 5%?

iii. About what percent of students dropped out of high school in 2007? About what percent of students stayed in high school in 2008?

26. Draw a line passing through (1, 3) and (0, 4). Write the coordinates of the point at which this line meets the x-axis and y-axis. **[3]**

27. Use the table below to draw line graph. Population (in thousands) of men and women in a village in different years. **[3]**

Year	2003	2004	2005	2006	2007
Number of Men	12	12.5	13	13.2	13.5
Number of Women	11.3	11.9	13	13.6	12.8

28. The number of electrical appliances manufactured by a factory during five consecutive years is given below. **[3]**

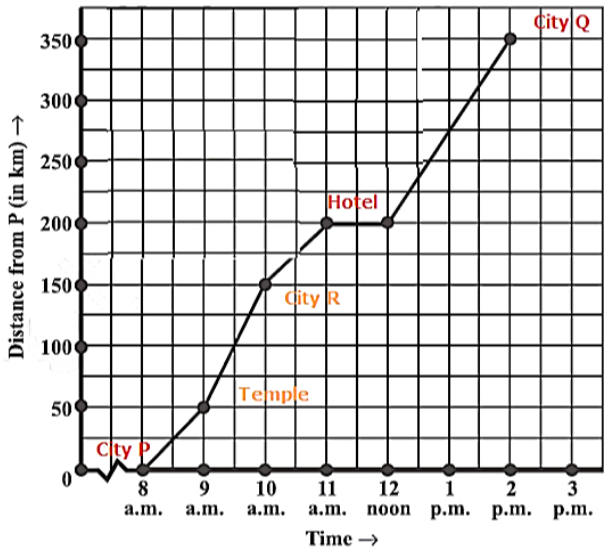
Years	2000	2001	2002	2003	2004
Number of appliances (in thousands)	10	15	8	12	16

Draw a line graph representing the above data.

Section D

Question No. 29 to 33 are based on the given text. Read the text carefully and answer the questions: **[5]**

Deepak travelled by car from his city P to other city Q. His journey has been plotted in the following graph.



Deepak started at 8 am from P. At 9 am he crossed through a temple but he did not stop there. At 10 AM.He reached at another city R. Now he felt tired and hungry so his eyes were looking for a hotel. After driving for 1 hr he saw a hotel at road side. He decided to stop at hotel for lunch and relaxing .Total time spent at hotel was 1 hr.At 12 pm Deepak again started for city Q. Finally he reached city Q at 2 PM.

29. How far did the car go during the 2nd hour?

a) 75 km b) 150 km

c) 100 km d) 50 km

30. For which period Deepak stopped at hotel?

a) 9 am to 10 am b) 12 pm to 1 pm

c) 11 am to 12 pm d) 10 am to 11 am

31. What was the speed of car from Hotel to city Q?

a) 100 km/hr b) 40 km/hr

c) 50 km/hr d) 75 km/hr

32. The average speed from city P to Q was _____ km/hr.

33. From temple to city R the speed of car was 100 km/hr.

a) True b) False

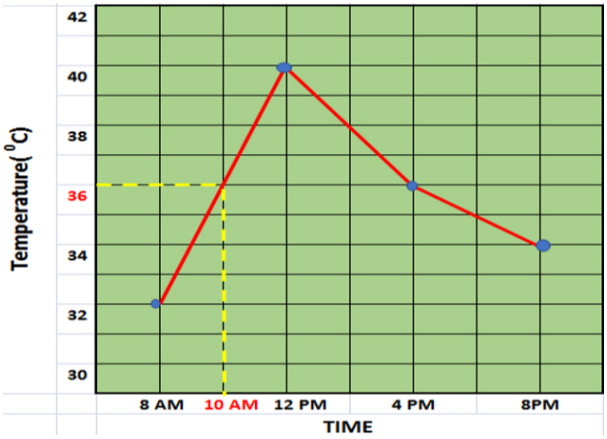
Question No. 34 to 38 are based on the given text. Read the text carefully and answer the **[5]**

questions:

Arjun and Ajay went for Picnic in Nainital. They decided to record the full day temperature. They decided to record the temperature 4 hourly at 8 AM in hotel the temp was 32^{o}C .At 12 PM when they were at zoo the temp was found to be 40^{o}C .They reached at lake at 4 PM that time the temp was 38^{o}C. At 8PM in the evening when they were back to hotel the temperature was recorded to be 34^{o}C.

Time	8 AM	12 PM	4 PM	8 PM
Temperature (^{o}C)	32	40	36	34

The line graph of the time and temp is shown below:



34. At what time the temp started decreasing:

a) 12 PM b) 4 PM

c) 8 PM d) 8 AM

35. At what time the temp was minimum:

a) 4 PM b) 8 AM

c) 12 PM d) 8 PM

36. What was the temp rise from 8 AM to 12 PM?

a) 4^{o}C b) 10^{o}C

c) 9^{o}C d) 8^{o}C

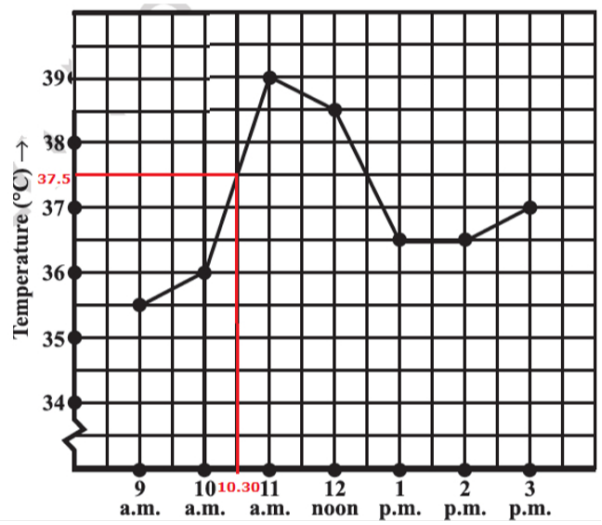
37. The temp at 10 AM was calculated to be _____ ^{o}C.

38. The temp difference between 12 PM and 4 PM was 5 ^{o}C.

a) True b) False

Question No. 39 to 43 are based on the given text. Read the text carefully and answer the questions: **[5]**

Once Rohan was admitted in hospital due to heavy fever and body pain. Doctor did test for typhoid fever .The results revealed the positive for typhoid.



The doctor was not still sure about the illness .He advised the nurses to record the patient's temperature hourly. The record of temp has been plotted as per above graph.

39. What was the patient's temperature at 1 p.m.?

a) 37 ^{o}C b) 38 ^{o}C

c) 36.5 ^{o}C d) 39 ^{o}C

40. What was the patient's temperature at 10.30 am?

a) 37.5 ^{o}C b) 38 ^{o}C

c) 39 ^{o}C d) 36.5 ^{o}C

41. From which time temp raised very high?

a) 12 pm b) 10 am

c) 9 am d) 11am

42. The highest temp was _____ ^{o}C.

43. After 11 am temperature stated coming down.

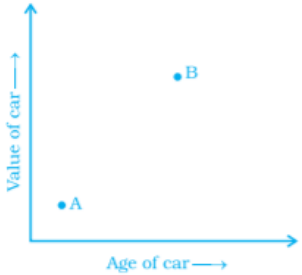
a) True b) False

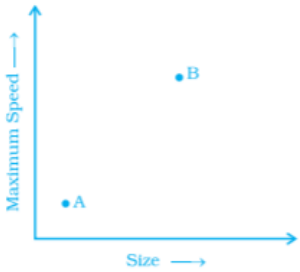
44. Draw a graph for the radius and circumference of circle using a suitable scale. Form the graph, **[5]**

a. find the circumference of the circle when radius is 42 units.

b. at what radius will the circumference of the circle be 220 units?

45. The two graphs below compare Car A and Car B. The left graph shows the relationship between age and value. The right graph shows the relationship between size and maximum speed. **[5]**





Use the graphs to determine whether each statement is true or false, and explain your answer.

i. The older car is less valuable.

ii. The faster car is larger.

iii. The larger car is older.

iv. The faster car is older.

v. The more valuable car is slower.

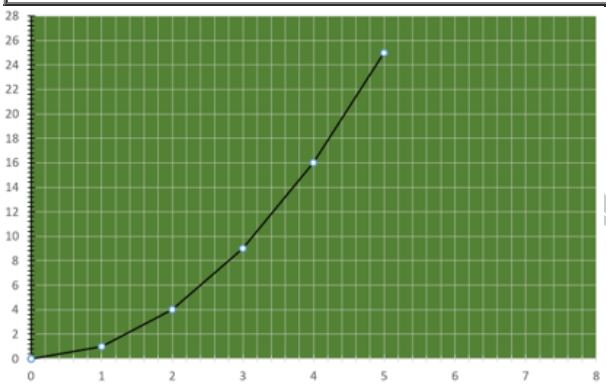
46. Consider the relation between the area and the side of a square given by $A = x^2$. **[5]**

a. Draw a graph to show this relation.

b. From the graph, find the value of A when x = 4.

c. Is this graph a linear graph?

Side of square (x)	0	1	2	3	4	5
Area of square (A)	0	1	4	9	16	25



47. The given graph (Fig) describes the distances of a car from a city P at different times when it is travelling from City P to City Q, which are 350 km apart. Study the graph and answer the following: **[5]**

i. What information is given on the two axes?

ii. From where and when did the car begin its journey?

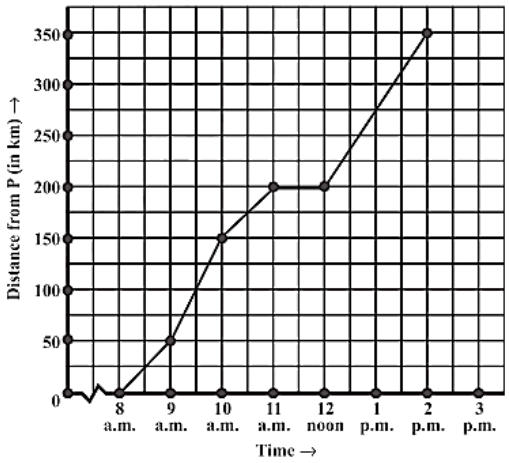
iii. How far did the car go in the first hour?

iv. How far did the car go during (i) the 2nd hour? (ii) the 3rd hour?

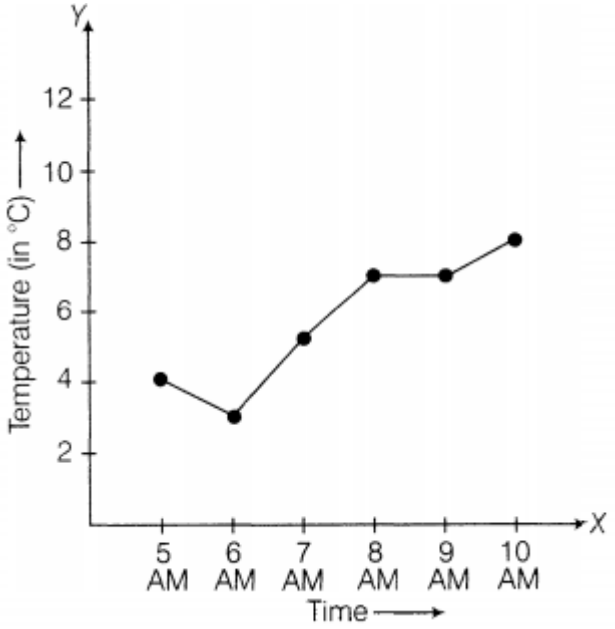
v. Was the speed same during the first three hours? How do you know it?

vi. Did the car stop for some duration at any place? Justify your answer.

vii. When did the car reach City Q?



48. The table given below shows the temperatures recorded on a day at different times. **[5]**



Observe the graph and answer the following questions.

a. What is the temperature at 8 AM?

b. At what time is the temperature 3°C?

c. During which hour did the temperature fall?

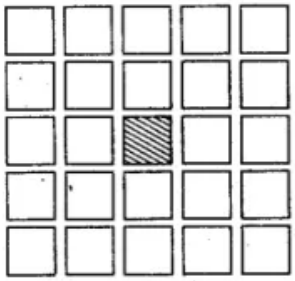
d. What is the change in temperature between 7 AM and 10 AM?

e. During which hour was there a constant temperature?

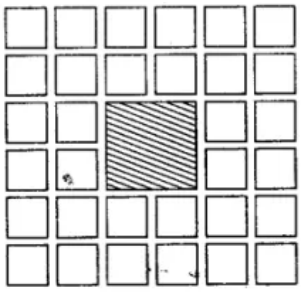
49. Sonal and Anmol made a sequence of tile designs from square white tiles surrounding one square purple tile. The purple tiles come in many sizes. Three of the designs are shown below. **[5]**

i. Copy and complete the table

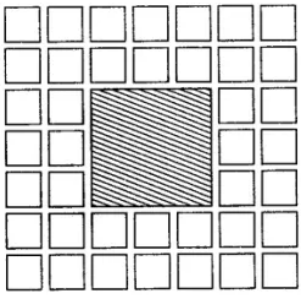
Side Length of Purple Tiles	1	2	3	4	5	10	100
Number of white Tiles in Border							



Side length 1



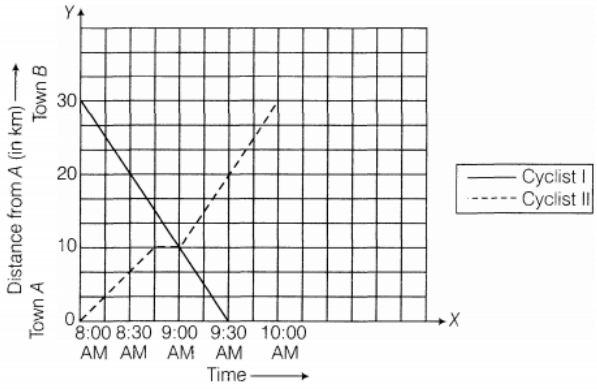
Side length 2



ii. Draw a graph using the first five pairs of numbers in your table.

iii. Do the points lie on a line?

50. The following graph shows the journey made by two cyclists, one from town A to B and the other from town B to A. **[5]**



a. At what time did cyclist II rest? How long did the cyclist rest?

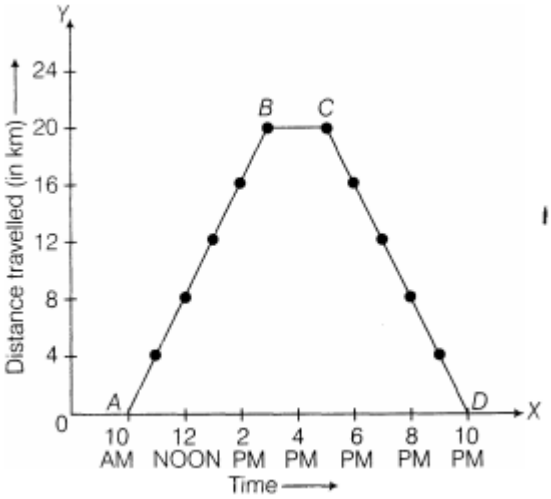
b. Was cyclist II cycling faster or slower after the rest?

c. At what time did the two cyclists meet?

d. How far had cyclist II travelled when he met cyclist I?

e. When cyclist II reached town A, how far was cyclist I from town S?

51. Study the graph given below of a person who started from his home and returned at the end of the day. Answer the questions that follow. **[5]**



a. At what time did the person start from his home?

b. How much distance did he travel in the first four hours of his journey?

c. What was he doing from 3 PM to 5 PM?

d. What was the total distance travelled by him throughout the day?

e. Calculate the distance covered by him in the first 8 hours of his journey.

f. At what time did he cover 16 km of his journey?

g. Calculate the average speed of the man from A to B and B to C.

h. At what time did he return home?

52. Observe the toothpick pattern given below: **[5]**

a. Imagine that this pattern continues. Complete the table to show the number of toothpicks in the first six terms.

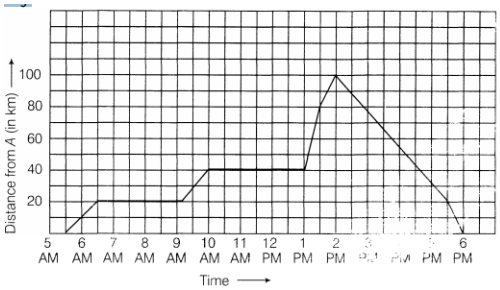
Pattern	1	2	3	4	5	6
Toothpicks	4			13		

b. Make a graph by taking the pattern numbers on the horizontal axis and the number of toothpicks on the vertical axis. Make the horizontal axis from 0 to 10 and the vertical axis from 0 to 30.

c. Use your graph to predict the number of toothpicks in patterns 7 and 8. Check your answers by actually drawing them.

d. Would it make sense to join the points on this graph? Explain.

53. A man started his journey on his car from location A and came back. The given graph shows his position at different times during the whole journey. **[5]**



a. At what time did he start and end his journey?

b. What was the total duration of the journey?

c. Which journey, forward or return, was of longer duration?

d. For how many hours did he not move?

e. At what time did he have the faster speed?