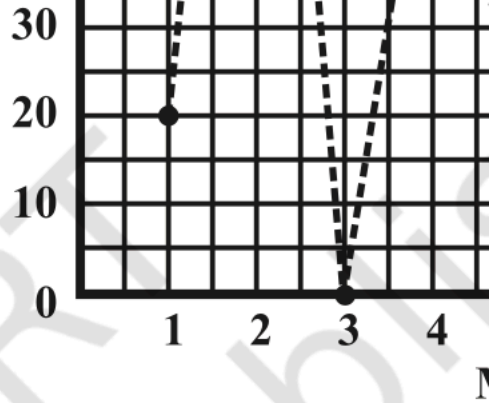
Example 2: The given graph (Fig 13.4) describes the distances of a car from a city P at different times when it is travelling from City P to City Q, which are 350 km apart. Study the graph and answer the following:



(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?

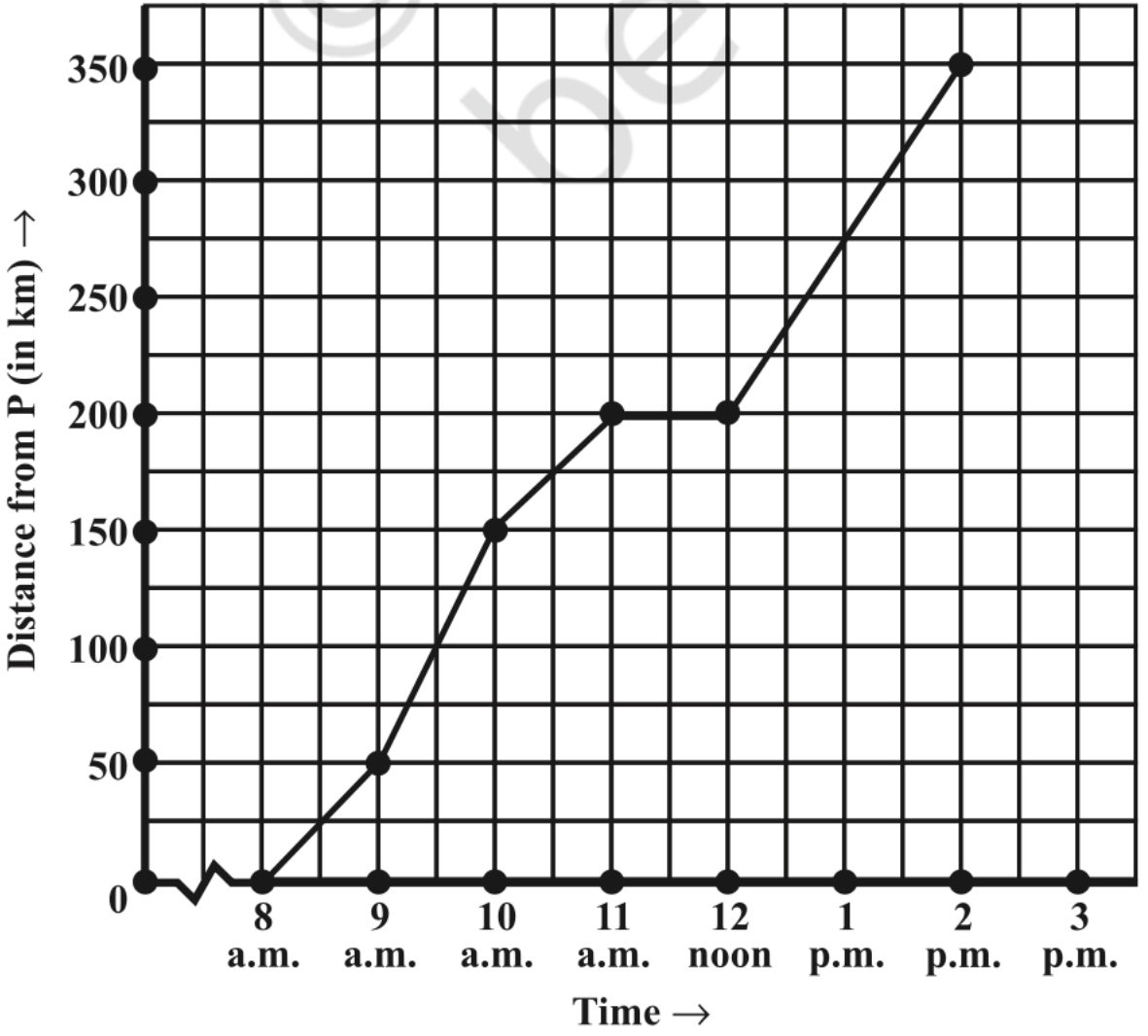
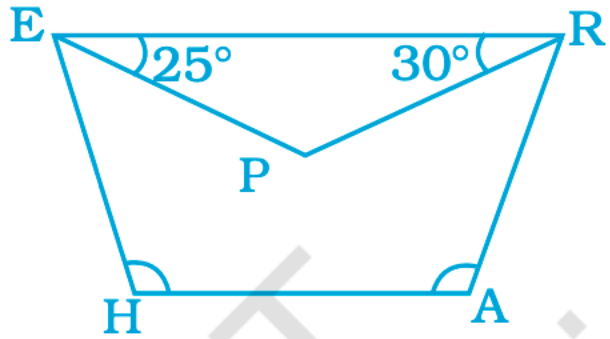

Distance from P (in km) →
350
300
250
200
150
100
50
0
8 a.m.
9 a.m.
10 a.m.
11 a.m.
12 noon
1 p.m.
2 p.m.
3 p.m.
Time →

Fig 13.4

(i) $\frac{x+1}{2x+7} = \frac{3}{8}$

146. In parallelogram ABCD, find $\angle B$, $\angle C$ and $\angle D$.

154. In trapezium HARE, EP and RP are bisectors of $\angle E$ and $\angle R$ respectively. Find $\angle HAR$ and $\angle EHA$.



73. The mass of an aluminium rod varies directly with its length. If a 16 cm long rod has a mass of 192 g, find the length of the rod whose mass is 105 g.

119. Three numbers are in the ratio 1:2:3 and the sum of their cubes is 4500. Find the numbers.

2. Factorise.

(i) $4p^2 - 9q^2$

(iv) $16x^5 - 144x^3$

5. Factorise the following expressions.

(i) $p^2 + 6p + 8$ (ii) $q^2 - 10q + 21$