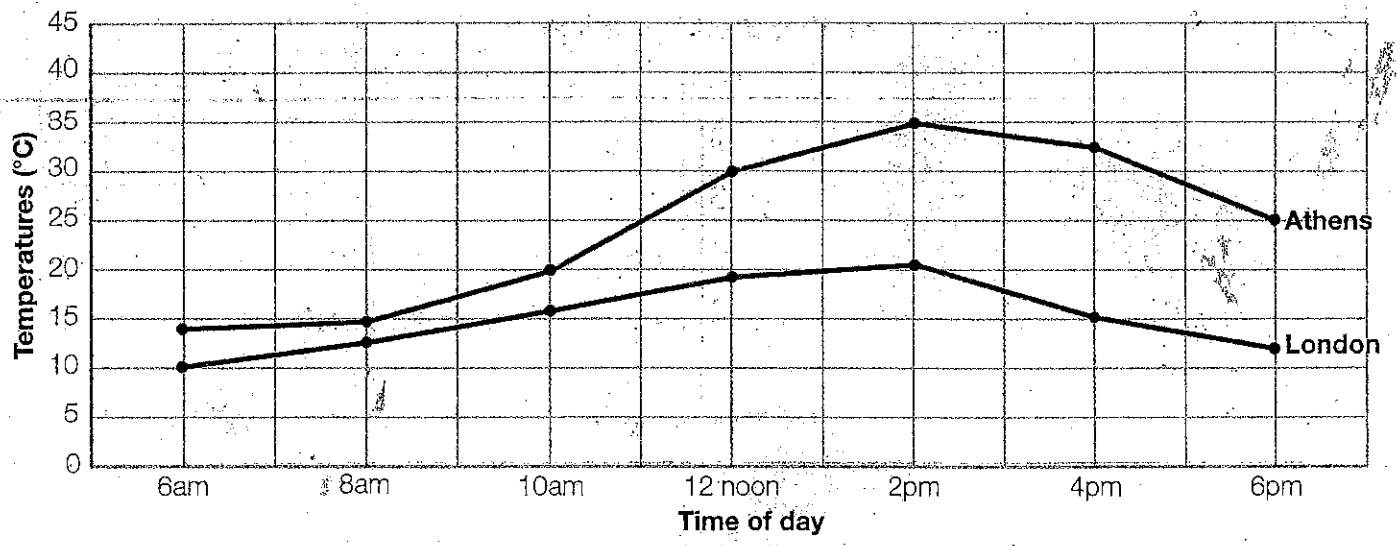
(M1) Option 1

Comparing data

A line graph is a useful way of showing changes over time.
Before you answer questions about a line graph, look at the graph and make sure you understand what it is showing. Look at the title and labels. Make sure you understand the scale.

Look at these two line graphs. They show the temperatures in London and Athens over one 12-hour period in summer.
Use the graphs to answer the questions below.

A graph to show the temperatures in London and Athens



1. What is the difference between the highest temperatures shown in Athens and London?

_____

2. What is the difference between the highest and lowest temperatures in London?

_____

3. What is the temperature in each city at 5:00pm? _____

4. Why is this information displayed as a line graph, not a bar chart or a bar line graph?

_____

_____

_____

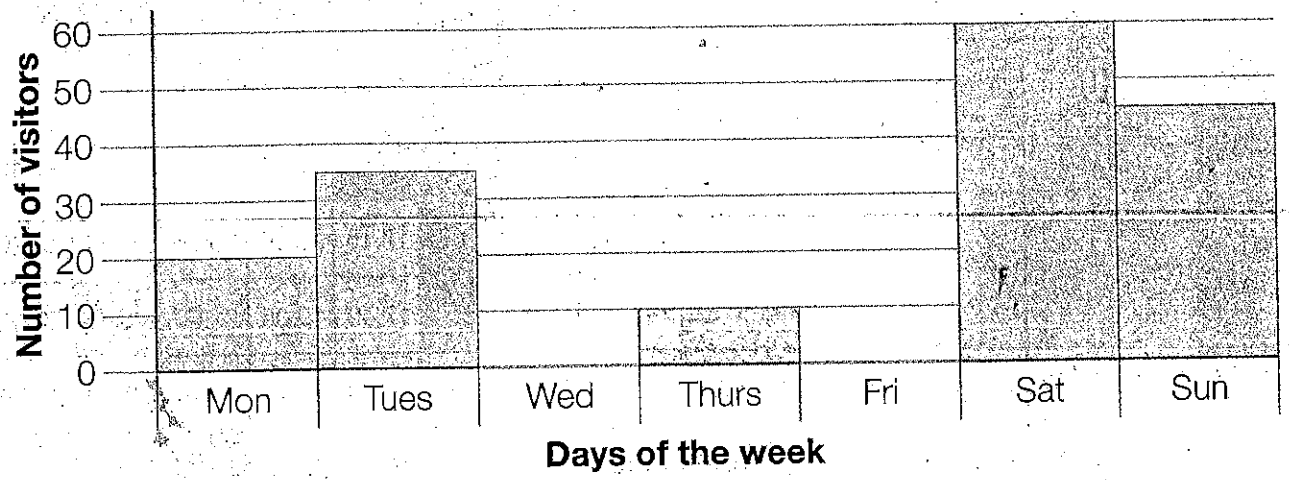
Missing data

(M1) Option 2

When you are completing a bar chart, make sure that you know what the scale is on the frequency axis and use this to fill in the missing data. Look at the other bars to help work out the height of the bar.

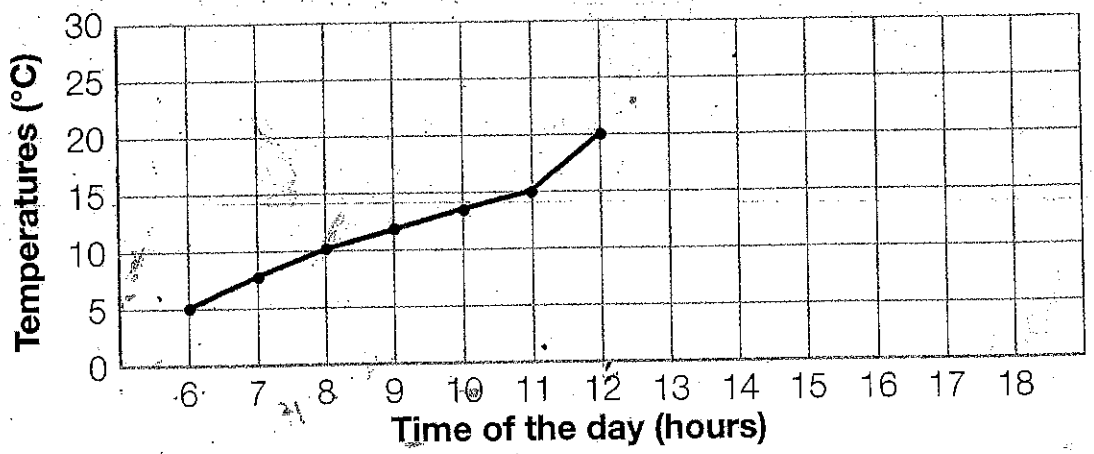
Complete these graphs from the information provided, then answer the questions.

Bar graph to show the number of daily visitors to a website



1. There were 35 visitors on Wednesday. Draw the bar to show this.
2. There were 42 visitors on Friday. Show this information on the graph.
3. What was the total number of visitors to the website that week? _____

Line graph to show the temperatures in my garden on a day in July



Time	Temp (C°)
13.00	21
14.00	22
15.00	21
16.00	21
17.00	18
18.00	16

4. Complete the graph by adding the data shown in the table (see above right).

Complete a timetable

(M1) Option 3.

To work out a time interval, count on from the start time to the end time. You could use a blank time line to help you.

Here is part of a timetable which is being considered for trains between Norwich and Liverpool. Study it carefully and then try to answer the questions below.

Norwich							12.52	13.49		15.53	16.57	18.45	19.30	20.51
Thetford							13.19	14.16		16.20	17.24	19.12	19.57	21.18
Ely							13.49	14.47			17.51	19.46	20.22	21.46
Peterborough							14.28	15.25		17.15	18.30	20.25	20.55	22.20
Grantham							14.57	15.58		17.49	19.05	21.00		22.55
Nottingham	09.12	10.36	11.45	12.35	13.33	14.38	15.34	16.44	17.32	18.33	19.45	21.40	22.10	23.35
Chesterfield	09.52	11.13	12.20	13.17	14.17	15.16	16.16	17.20	18.12	19.13	20.15			
Sheffield	10.15	11.37	12.39	13.37	14.37	15.35	16.36	17.42	18.35	19.25	20.35			
Stockport	11.22	12.24	13.25	14.23	15.33	16.23	17.23	18.26	19.23	20.23	21.17			
Manchester Piccadilly	11.37	12.37	13.37	14.37	15.37	16.37	17.37	18.37	19.37	20.32	21.28			
Liverpool Lime Street	12.22	14.25	14.25	15.24	16.25	17.25	18.25	19.25	20.25					

1. How long does the first train from Nottingham take to reach Liverpool Lime Street?

2. What is the shortest journey time from Nottingham to Liverpool Lime Street?

3. Use the times between stations to complete this section of the return journey from Liverpool Lime Street to Nottingham.

Liverpool Lime Street	12.00
Manchester Piccadilly	
Stockport	
Sheffield	
Chesterfield	
Nottingham	

4. There is a proposal to extend the train service. The boxes with letters on the timetable on the previous page represent when the extended service will run. Use other entries in the timetable to estimate suitable times for the new service. Write your estimates below.

a. _____ b. _____ c. _____

d. _____ e. _____ f. _____

g. _____ h. _____ i. _____

j. _____ k. _____ l. _____

m. _____ n. _____

Jay wants to travel by train from Exeter to meet the 15.37 at Manchester Piccadilly. Use the internet to find the times and details of his best journey.