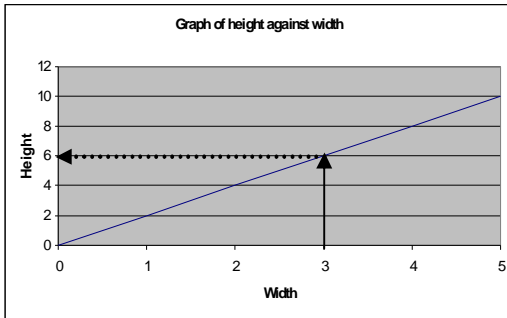


KEYSKILLS

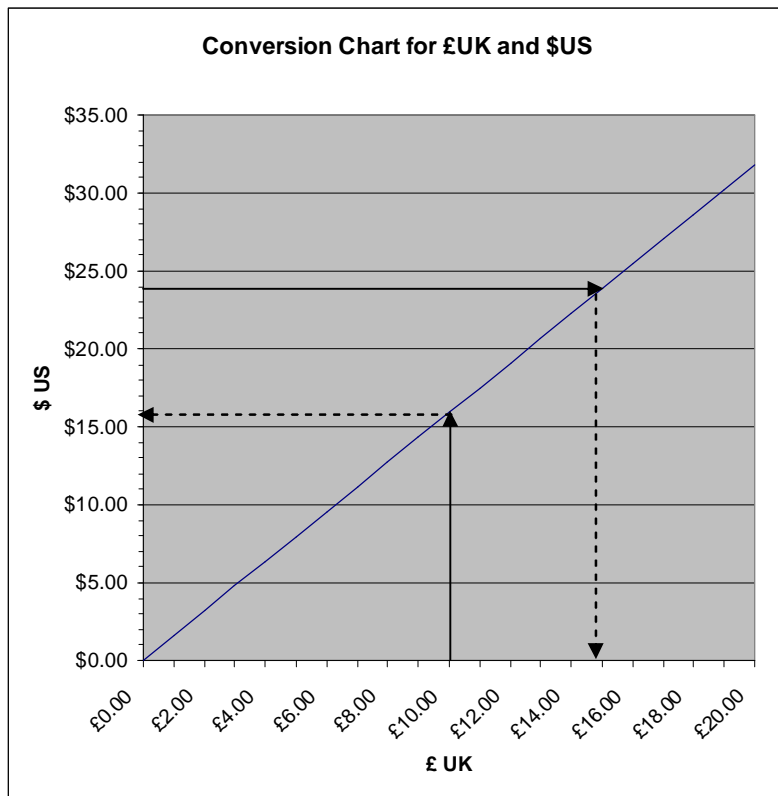
LINE GRAPHS

Reading Points from a Graph.



Example 1 Graphs are constructed from two axes, the x and y. The x-axis is usually along the bottom of the graph and the y-axis along the side. Any point on the graph can be described by where it lies in relation to the two axes.

The graph on the left shows that if the width is 3 units then the height is 6 units. This is found by reading up from the 3 on the x-axis until the line is reached, and then reading across to find the value on the y-axis.



Example 2

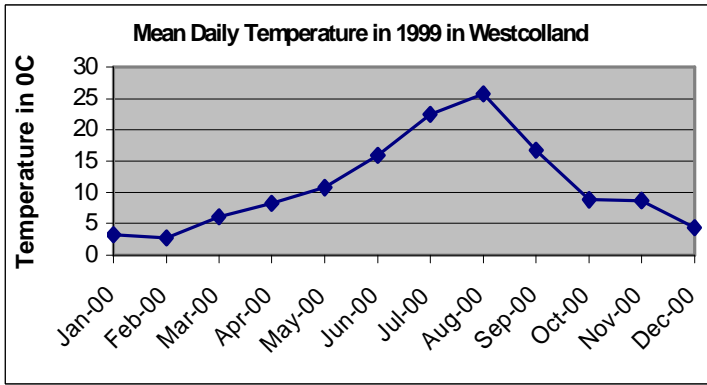
Graphs are often used to make conversions easier. You can convert between £ and \$US by reading from the graph.

If you wanted to convert £10 to \$ you draw a vertical line up from the £10 mark on the x-axis until you reach the graph line. You then draw a horizontal line across to the y-axis, and take the reading from there. The answer is slightly under \$16, (\$15.90 to be precise).

To change from \$US to £ the reverse process is used. So to convert \$24 draw a line horizontally from the y-axis until it reaches the graph line, and then draw a vertical line down to the x-axis. The answer is about £15, (£15.09 to be precise).

Exercise 1

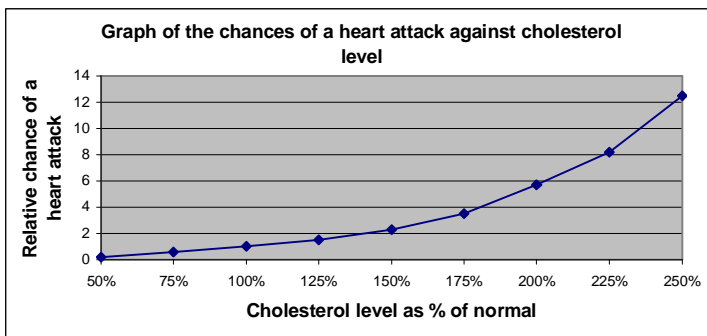
1.



This graph shows how the temperature changed over the year. Can you identify when the minimum and maximum temperatures occurred, and roughly what temperatures they were?

Minimum _____
 Month _____
 Maximum _____
 Month _____

2.



This graph shows the effect that cholesterol has of increasing your risk of a heart attack. At what cholesterol level is your chance of having a heart attack

a) doubled _____

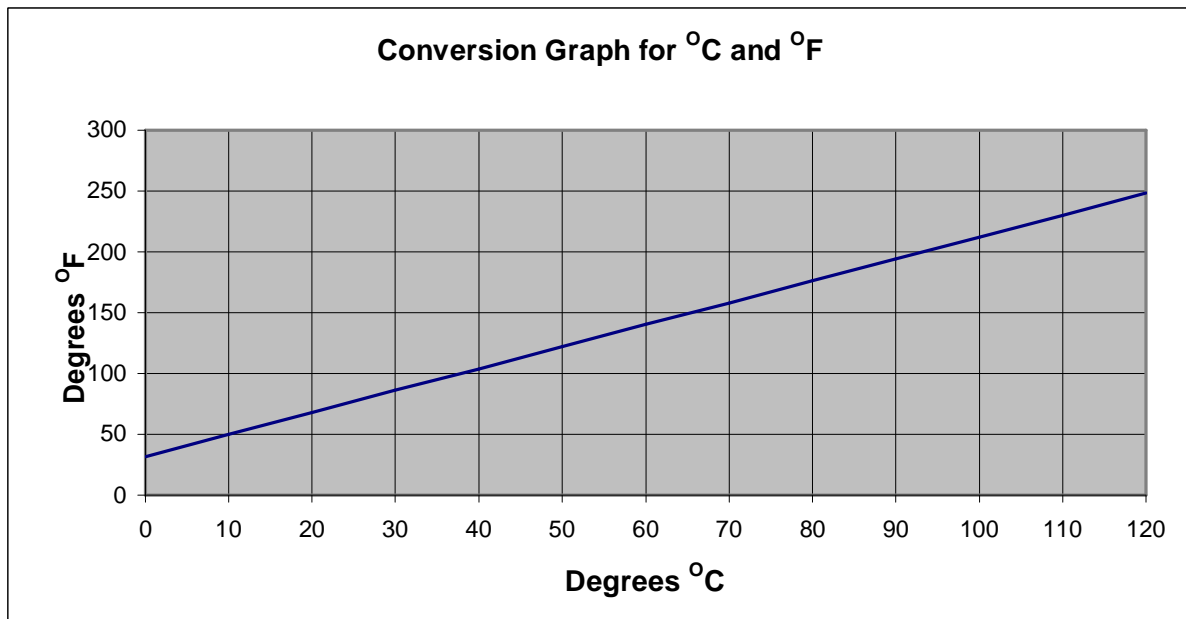
b) ten times higher _____

What are the chances of a

heart attack if the cholesterol level as a percentage of normal is

c) 150% _____

d) 250% _____



3.

Use the conversion graph to convert the following temperatures between °C and °F.

°C		°F		°F	°C
0°C				50°F	
40°C				100°F	
100°C				150°F	
25°C				225°F	
75°C				75°F	

Exercise 2

1. Use the table to construct a graph in the area provided below.

£ UK	10.00	20.00	30.00	40.00	50.00
Italian Lira	30,600	61,200	91,800	122,400	153,000

Use the table to find out the value of the following

- a) £5 in Italian Lira b) £25 in Italian Lira c) £45 in Italian Lira
d) L100,000 in £UK b) L140,000 in £UK c) L50,000 in £UK

2. Use the table to construct a graph in the area provided on the next sheet.

Month	January	February	March	April	May	June
Debt	£1,000.00	£1,020.00	£1,040.40	£1,061.21	£1,082.43	£1,104.08
Month	July	August	September	October	November	December
Debt	£1,126.16	£1,148.69	£1,171.66	£1,195.09	£1,218.99	£1,243.37

Remember to title the graph and label the axes. Use the table to find out the value of the following

When does the debt reach a) £1,100 b) £1,200. Show your calculations on the graph.

c) Is the graph a straight line or a curve? You might find a ruler helpful with this.

CHART FOR QUESTION 1

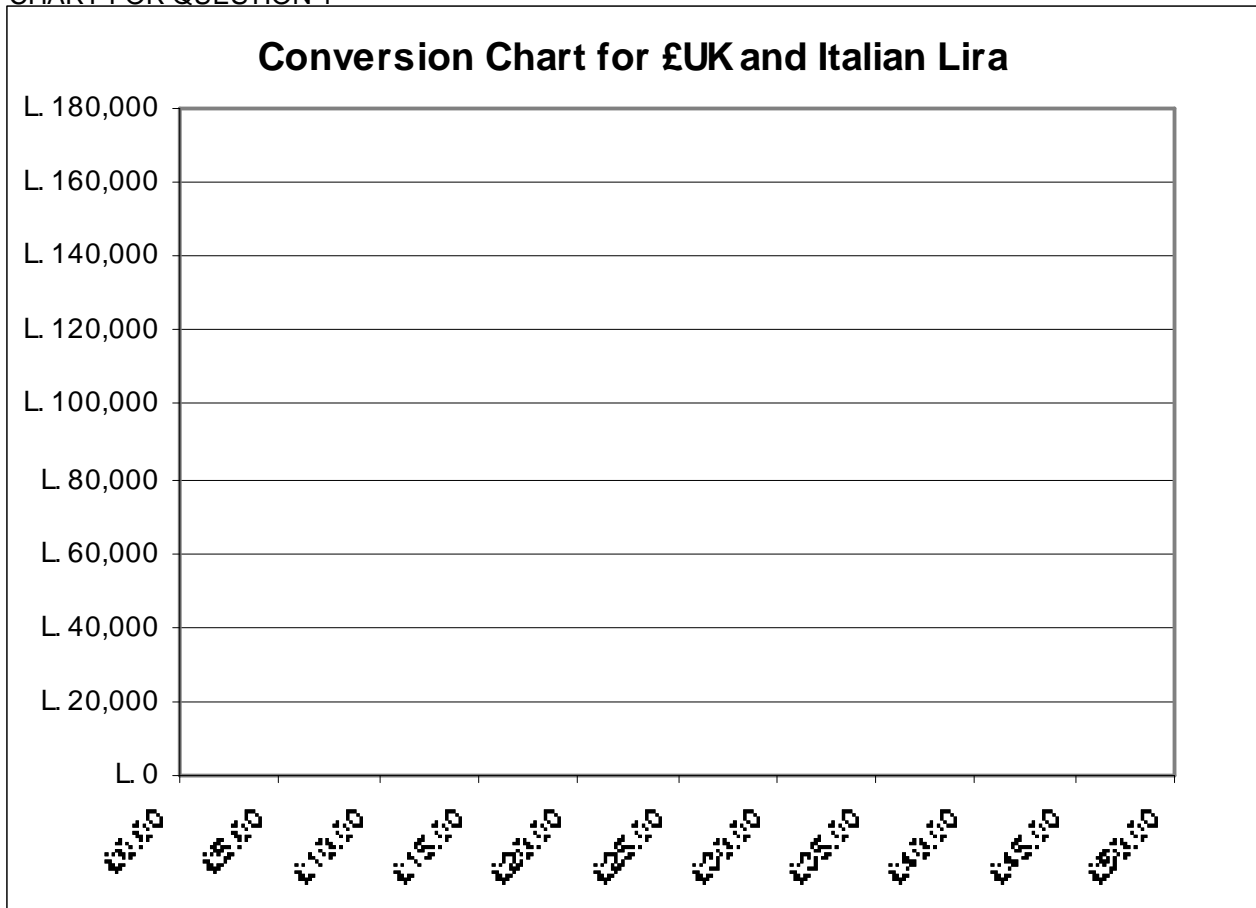
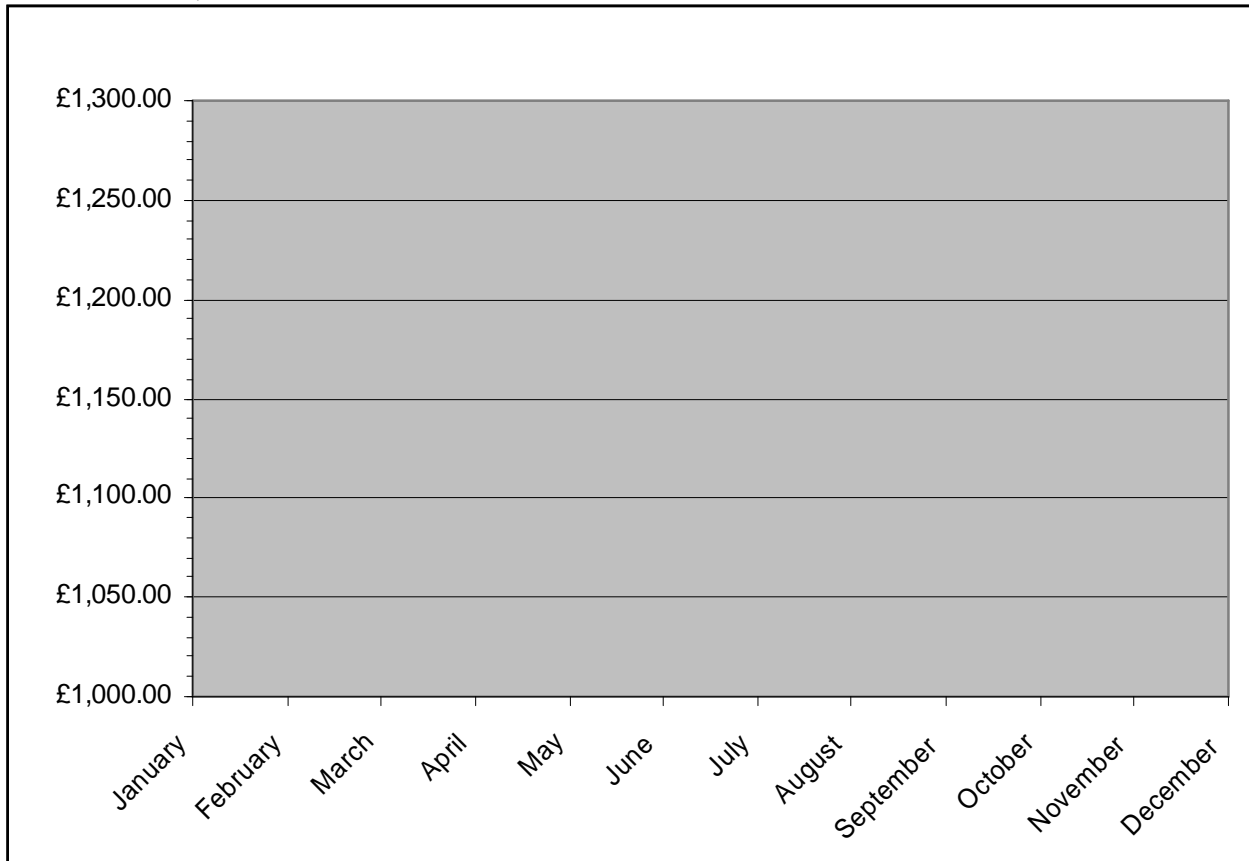


CHART FOR QUESTION 2



3) On a sheet of graph paper construct a graph from the following data. This shows the length of time it takes the subjects pulse to return to its previous rate after 20 minutes of strenuous exercise.

Months of training	0	1	2	3	4	5	6
Recovery time in minutes	18.2	17.4	15.9	13.2	13.5	12.6	11.9

To do this you will have to

- Decide which set of figures is the dependent and which the independent variables. This will then determine your x-axis and your y-axis.
- Decide upon appropriate scales on the graph paper. You can do this by counting the number of squares available and then calculating whether you can have one, two or four squares for each unit. For the six months of training this would use 6, 12 or 24 squares.
- For the recovery time do you want to start your graph at 0 minutes, 5 minutes or 10 minutes? You can use any one of these, but your graph will look slightly different depending on which you choose.
- Decide upon an appropriate title and axes labels.
- Plot the points and join them by lines.

When you have completed your graph write a brief report detailing how the training has progressed.

4) Construct a graph of the following data

Number of UK Visitors to Albania, Benin and Cambodia 1990-95

	1990	1991	1992	1993	1994	1995
Albania	1020	1300	2200	3500	3000	700
Benin	880	750	920	1200	1050	1280
Cambodia	2100	2300	1950	2440	2380	2220

When you have completed your graph write a brief report detailing how the number of visitors to the countries has changed over the six years.