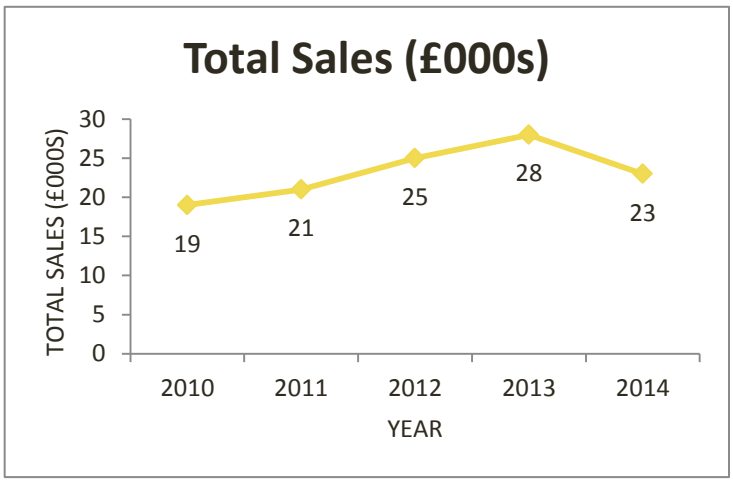
Line Graphs

Line graphs are another visual way of presenting data. Often they are used to show how a value changes over time.

Example

This line graphs shows how total sales for a company have changed over five years.



(i) *What was the best year for sales in the 2010 - 2014 period?*

The best year for sales is where the line reaches its peak, 2013.

(ii) *In 2012, online sales comprised 45% of total sales. What was the value of online sales in 2012?*

From the line graph, we can see that the value for total sales for 2012 is 25. We need to calculate 45% of 25 $\quad$ 45% x 25 = 11.25

We remember that the unit here is thousands of pounds (£000s), so the answer is that online sales had a value of £11,250 in 2012.

(iii) *What was the percentage increase in total sales between 2010 and 2014, to one decimal place?*

Total sales increased from 19 in 2010 to 23 in 2014. (We note that it is easier to leave the values as they are, rather than translate them to £000s – this is valid as we are comparing 'like with like' in these calculations). Therefore, there was an increase in total sales of $\quad$ 23 – 19 = 4

We need to calculate this increase as a percentage of the 2010 figure 4 / 19 x 100 = 21.05%. Since we have been asked to calculate the value to one decimal place, the correct answer is 21.1%.

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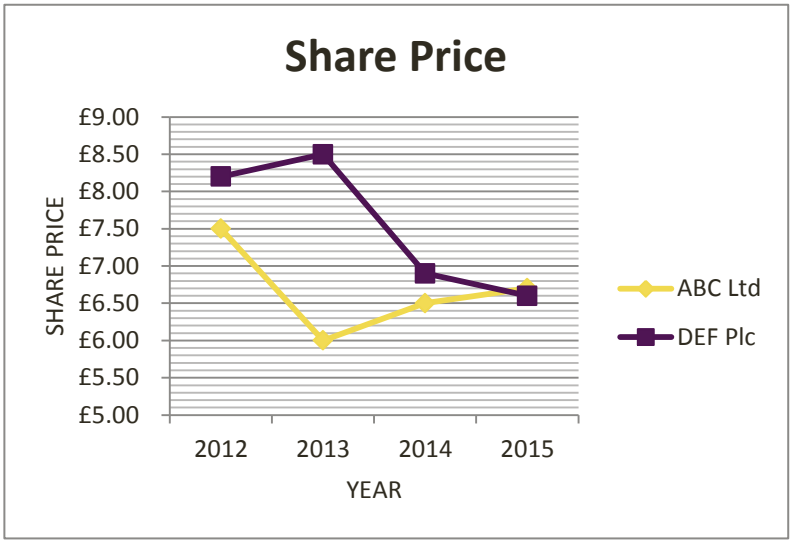
Line graphs can also be used to show how two or more values change over time.

Example

This line graph shows share price changes to two companies over a four year period.



(i) *What is the difference between the ABC Ltd share price and the DEF Plc share price in 2012?*

The difference between the share prices in 2012 is 8.20 – 7.50 = 0.70

There is a difference of £0.70 between the ABC Ltd share price and the DEF Plc share price in 2012.

(ii) *In which year was the largest percentage increase in share price for ABC Ltd?*

From the line graph, we can see that the ABC Ltd share price increased in 2014 and 2015. We need the calculate the increase in price in each year
2014 6.50 – 6.00 = 0.50
2015 6.70 – 6.50 = 0.20

We then calculate each as a percentage the share price in the earlier year
0.50 / 6.00 x 100 = 8.33%
0.20 / 6.50 x 100 = 3.07%

Therefore the largest percentage increase in share price was in 2014.

Speed Tip!

From the graph, you could guess the answer for (ii).

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