

# PIE CHARTS AND SCATTER-GRAPHS

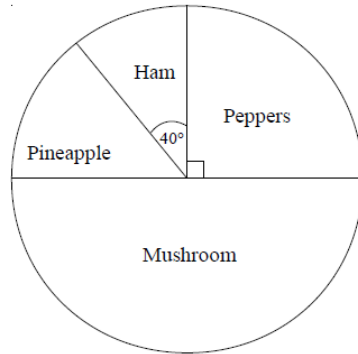
## Statistics

### Key Concepts

**Pie charts** use angles to represent proportionally the quantity of each group involved.

Pie charts can only be compared to one another when populations are given.

**Scatter-graphs** show the relationship between two variables. This relationship is called the **correlation**.



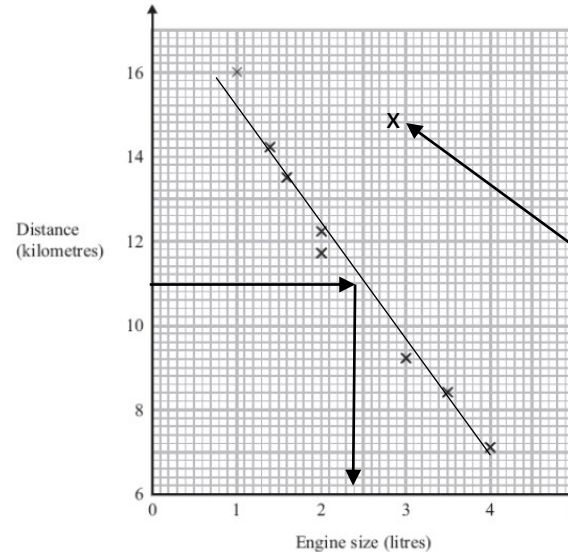
Topping	Frequency	Angle of Sector
Peppers	18	90°
Mushroom	36	180°
Pineapple	10	50°
Ham	8	40°

$$\frac{360}{72} = 5$$

72      360°

× 5

### Examples



A scatter-graph is drawn to show the relationship between the engine size of a car and how far it can travel.

It shows negative correlation.

This is an outlier.

We draw a line of best fit through the middle of the data points to read from to estimate readings. For example, estimating the engine size of a car that can travel 11km would be 2.5 litres.

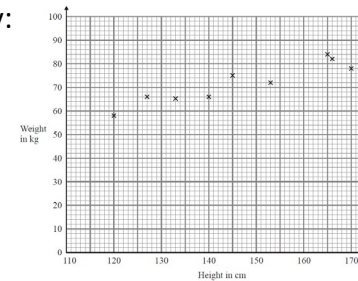


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**Key Words**  
Pie chart  
Scatter-graph  
Correlation  
Outlier  
Variable

1) Calculate the angle for each category:

Region	Frequency
Southern England	9
London	23
Midlands	16
Northern England	12
Total	60



2a) What type of correlation is shown?  
b) Using a line of best fit estimate the weight when the height is 135cm.