Key Vocab

Frequency - How 'frequent' something is. The mathematical word for the total

Frequency Density - Frequency density is the frequency per unit for the data in each class

Class Width - the difference between the upper-class limit and the lower-class limit of a class interval

Histogram - a diagram consisting of rectangles whose area is proportional to the frequency of a variable and whose width is equal to the class interval

Distribution - The way in which data is shared out between the variables

Skew - *when data has a long tail on one side or the other, so it is not symmetrical*

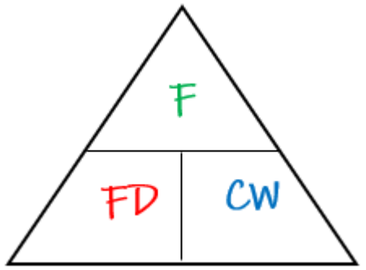
Key Knowledge

A histogram is similar to a bar chart but is used to display quantitative continuous data (numeric data)

In a bar chart, the heights of the bars represent the frequencies, whereas in a histogram the area of the bars represent the frequencies.

To draw a histogram we need to find the frequency density of each class interval.

The frequency density of a class interval is equal to the frequency divided by the class width



Histogram

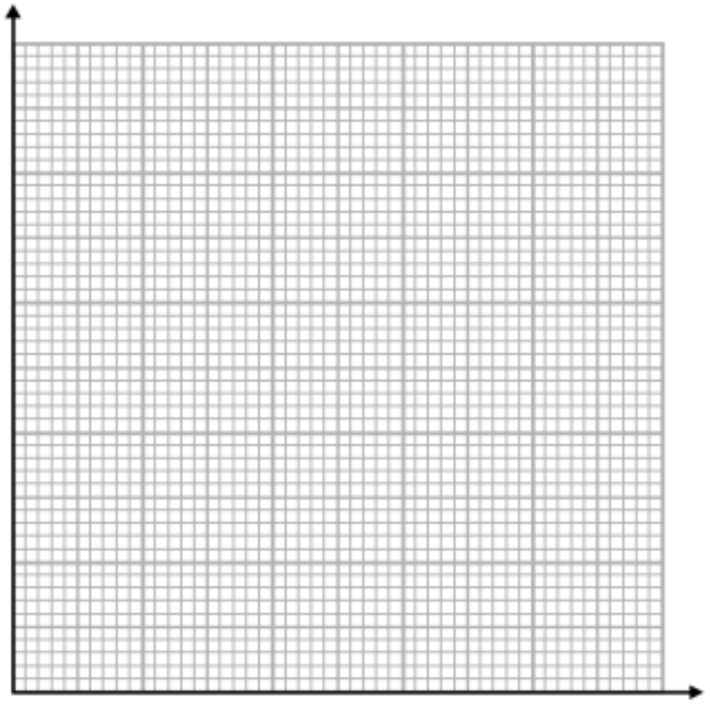
Example

WE DO

The table shows information about the speed, in mph, of some cars.

Speed (mph)	Frequency
$40 < s \leqslant 55$	6
$55 < s \leqslant 60$	10
$60 < s \leqslant 65$	46
$65 < s \leqslant 75$	48
$75 < s \leqslant 90$	6

(a) On the grid, draw a histogram for the information in the table.



(3)

(b) Work out an estimate for the number of cars over 70mph.

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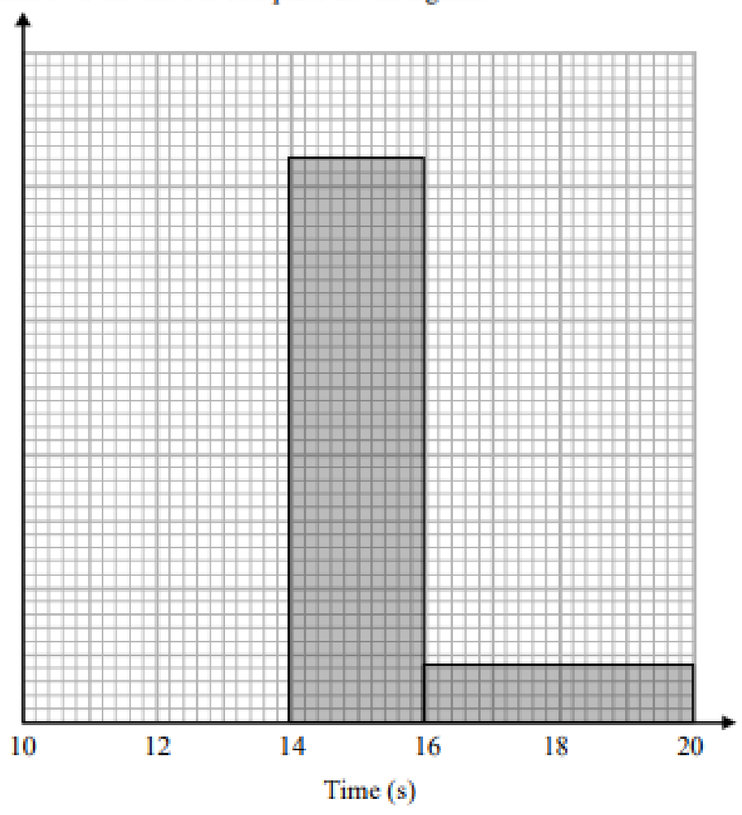
(1)

YOU DO a

The table shows information about the time, in seconds, taken for some people to run a 100m race.

Time (s)	Frequency
$10 < t \leqslant 12$	6
$12 < t \leqslant 13$	21
$13 < t \leqslant 14$	23
$14 < t \leqslant 16$	
$16 < t \leqslant 20$	8

(a) Use the information on the table to complete the histogram.

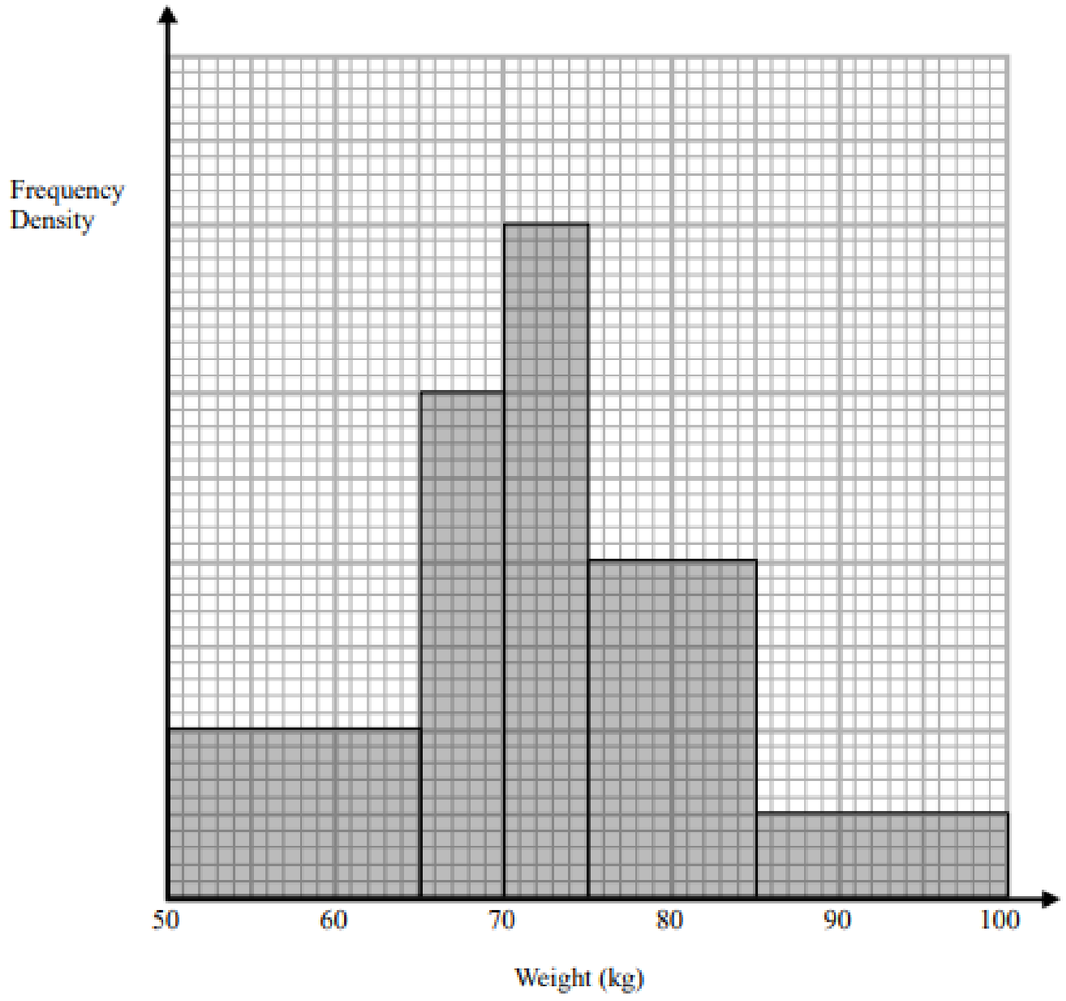


(b) Use the histogram to complete the table.

(Total for question 4 is 4 marks)

YOU DO b

The histogram shows information about the weight of pigs.



30 pigs weigh between 50 and 65 kg.

(a) Work out an estimate for the number of pigs which weigh more than 80kg.

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(3)

(b) Explain why your answer to part a is only an estimate.

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(1)

(Total for question 6 is 4 marks)