1C – Displaying and describing numerical data

**ORGANISING DISCRETE NUMERICAL DATA**

Construct a **frequency table** (including **percentage frequency**) for the following data:

*The number of bedrooms for 24 properties in a particular area are recorded below:*

2 3 4 3 3 4 3 4 4 1 3 2 1 2 2 2 4 5 3 4 4 5 3 4

|  |  |  |
| --- | --- | --- |
| Number of Bedrooms | Frequency | |
| Frequency | Percentage |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| Total |  |  |

**IDENTIFYING THE MODE**

The mode is the **most frequently occurring number** (of bedrooms) in the data.

*In the above data set, the mode is \_\_\_\_ bedrooms* .

**WRITING A REPORT DESCRIBING A DISCRETE NUMERICAL VARIABLE**

1. Summarise the context of the data collection, including the number of individuals involved
2. If there is a clear mode, mention the percentage in a sentence
3. If there are only a small number of other categories, mention all of their percentages in a sentence
4. If there are a lot of other categories, only mention some key percentages

Fill in the blanks to generate an example report for the above data set:

*The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for 24 \_\_\_\_\_\_\_\_\_\_\_ were recorded. The largest*

*proportion of houses, \_\_\_\_, had \_\_ bedrooms. \_\_\_\_ of houses had \_\_ bedrooms and*

*\_\_\_\_ of houses had 2 bedrooms. Houses with \_\_ or \_\_ bedrooms were less common.*

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**DISPLAYING DISCRETE NUMERICAL DATA USING A FREQUENCY BAR CHART**

Using the frequency table above, construct **bar charts** to represent the data – one with a **frequency scale** and one with a **percentage frequency scale**.

*NOTE: There are Mathematica commands for checking your bar charts in the Chapter 1 notebook*

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1. What percentage of houses have less than 3 bedrooms?
2. What percentage of houses have an odd number of bedrooms?
3. What percentage of houses have the modal number of bedrooms?

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**ORGANISING GROUPED & CONTINUOUS NUMERICAL DATA**

Construct a **grouped frequency table** (including **percentage frequency**) for the following data:

*The assessment marks for 27 students are recorded below. Organise them in intervals of 4 with a starting value of 2:*

16 11 4 25 15 7 14 13 14 12 15 13 16 14

15 12 18 22 17 18 23 15 13 17 18 22 23

|  |  |  |
| --- | --- | --- |
| Class Assessment Marks | FREQUENCY | |
| Frequency | Percentage |
| 2.0 – 5.9 |  |  |
|  |  |  |
| 10.0 – 13.9 |  |  |
|  |  |  |
| 18.0 – 21.9 |  |  |
|  |  |  |
| Total |  |  |

**DISPLAYING GROUPED & CONTINUOUS NUMERICAL DATA USING A HISTOGRAM**

Using the frequency table above, construct **histograms** to represent the data- one with a **frequency scale** and one with a **percentage frequency scale**.

*NOTE: There are Mathematica commands for checking your histogram in the Chapter 1 notebook*

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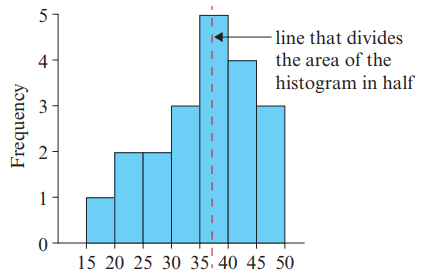
**DESCRIBING HISTOGRAMS – SHAPE**

There are 4 basic shapes of histograms that you may need to describe:

|  |  |  |  |
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**DESCRIBING HISTOGRAMS – CENTRE**

The centre of the distribution is approximately where there is an \_\_\_\_\_\_\_\_ \_\_\_\_\_\_ on either side:



**DESCRIBING HISTOGRAMS – SPREAD**

The width of the central region shows whether the data values are \_\_\_\_\_\_\_\_\_\_\_\_\_\_ around the centre or more \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_:

|  |  |
| --- | --- |
|  |  |
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**DESCRIBING HISTOGRAMS – OUTLIERS**

Outliers are data values that \_\_\_\_\_\_\_ \_\_\_\_ from the main body of the data. Possible outliers can be identified visually, but must be confirmed with a mathematical test.

