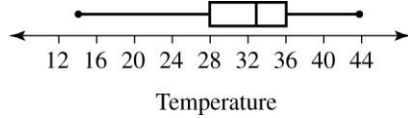


## WorkSHEET 3.2 Data analysis and evaluation

Name: \_\_\_\_\_

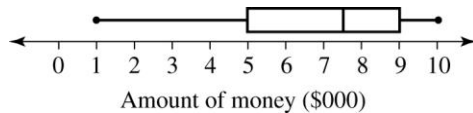
- 1 The box-and-whisker-plot drawn below shows the maximum temperature each day over one year in an outback town.



- Use the box-and-whisker plot to find
- the median maximum temperature
  - the range
  - the interquartile range.

- 2 Draw a box-and-whisker plot that has a median of 40, range of 40 and interquartile range of 25.

- 3 The box-and-whisker plot below shows the amount of money raised (in \$1000) for charity at several collection points around Sydney.



- Find the median amount of money collected.
- What is the range?
- Find the interquartile range.

- 4 The ages of 24 people who enter a talent quest are shown below.  
16, 19, 23, 28, 25, 17, 18, 20, 26, 21, 25, 24,  
17, 18, 20, 23, 22, 19, 24, 25, 26, 21, 22, 19

Display the data in the form of a box-and-whisker-plot.

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- 5 Find the standard deviation of each of the following data sets. Give your answers correct to two decimal places.
- (a) 3, 5, 7, 2, 6, 3, 8, 4, 6, 7  
(b) 17, 5, 82, 70, 12, 47, 82, 39  
(c) 0.8, 0.2, 0.8, 0.5, 0.1, 1.0, 0.8, 0.6, 0.4, 0.5

- 
- 6 Find the standard deviation of each of the following data sets. Give your answers correct to two decimal places.

(a)

Score	Frequency
1	5
2	11
3	21
4	14
5	9

(b)

Score	Frequency
6	19
7	12
8	6
9	10
10	13

- 
- 7 Consider the frequency distribution table below.

Class	Class Centre	Frequency
1–5		5
6–10		8
11–15		14
16–20		10
21–25		3

- (a) Complete the class centre column.
- (b) Use your calculator to find the mean and the standard deviation of the distribution.

- 
- 8 Find the mean and standard deviation of the data shown in the stem-and-leaf-plot shown below.

Key 1 | 5 = 1.5

Stem | Leaf

0 | 8 8 8 9 9

1 | 0 0 1 2 2 4 5 5 6 7 7 7 9

2 | 0 0 0 3 3 4 5

- 
- 9 Consider the two data sets below  
Data set A: 45, 48, 49, 50, 50, 54, 54  
Data Set B: 12, 38, 42, 56, 60, 68, 74

- (a) Calculate the mean of each data set.
- (b) Without actually calculating the standard deviation which data set has the lower standard deviation? Explain how you came to this conclusion.
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**10** Consider the distances jumped by two long jumpers (in metres).

Sandra: 4.76, 4.85, 4.84, 4.86, 4.81

Tracy: 4.56, 4.85, 4.69, 4.98, 5.04

- (a) Calculate the mean distance jumped by both girls.
  - (b) Calculate the standard deviation for both girls.
  - (c) What conclusions can you make about the performance by each girl?
-