MEMORANDUM

Name: ..... Class: .....

Date: .....

MARK ____ / 26

Answer all questions. Show all your working — marks are awarded for method as well as the final answer. **Teacher copy: accept any correct equivalent method.**

1 In a survey of 60 learners, 15 chose soccer as their favourite sport. Calculate the size of the soccer sector in a pie chart of the results. (3)

$\frac{15}{60}$ of the learners chose soccer *(1)*

$\frac{15}{60} \times 360°$ *(1)*

$= \mathbf{90°}$ *(1)* ✓✓✓ (3)

2 Is 'What is my height?' a statistical question? Why? (2)

No — there is only one answer. A statistical question must have answers that vary. ✓✓ (2)

3 Define a population in statistics. (1)

The **entire group** being studied. ✓ (1)

4 Why do we use a sample instead of the whole population? (2)

It is **faster and cheaper**; asking everyone is usually impractical. ✓✓ (2)

5 You survey only your friends about school food. What is wrong? (2)

The sample is **biased** — it is not representative of the whole school. ✓✓ (2)

6 What is wrong with the options '0–10, 10–20, 20–30'? (2)

They **overlap** — 10 and 20 each fit two intervals. ✓✓ (2)

7 In a stem-and-leaf display, what value is stem 4 with leaf 7? (1)

stem	leaf
2	3 5
3	1 4 8
4	2 5 7
5	1

key: 2 | 3 means 23

> **47** ✓ (1)

8 Data: 12, 15, 21, 24, 28, 33. Write the stems. (2)

> Stems **1, 2, 3** (leaves: 2,5 | 1,4,8 | 3) ✓✓ (2)

9 Tallies 𝍸 | 𝍸 | || represent what frequency? (1)

> **12** ✓ (1)

10 In a survey of 60 learners, 25 chose soccer. Calculate the angle of the soccer sector in a pie chart. (3)

> $\frac{25}{60} \times 360° \checkmark\checkmark = 150° \checkmark$ (3)

11 A pie chart of 90 learners has sectors of 120°, 100°, 80° and x. Calculate x and the number of learners it represents. (3)

> $x = 360° - (120 + 100 + 80) = 60° \checkmark\checkmark$; $\frac{60}{360} \times 90 = 15$ learners ✓ (3)

12 State TWO features a double bar graph must have. (2)

> A key/legend showing what each colour means ✓; one shared vertical scale for both groups, with the pair of bars touching and gaps between categories ✓ (2)

13 Why would a pie chart be the WRONG choice for data where learners could pick more than one sport? (2)

> The categories then overlap and do not add up to one whole ✓; a pie chart can only show parts of a single total, so a bar graph should be used ✓ (2)

TOTAL: 26 marks

© Danemathics — free to print and share for classroom use.