# EXAM-STYLE CLASS TEST

| MARKS | DURATION | QUESTIONS |
|---|---|---|
| 34 | 55 minutes | 3 |

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

Date: .....

MARK ____ / 34

## INSTRUCTIONS AND INFORMATION

1. Answer **ALL** the questions in this question paper.
2. Answer QUESTION 1 by **circling** the letter (A–D) in the answer grid at the end of that section.
3. Show **ALL** calculations clearly.
4. Show all units where applicable.
5. Number the answers correctly according to the numbering system used in this question paper.
6. A non-programmable calculator may be used, unless stated otherwise.
7. Write neatly and legibly.

## QUESTION 1 [10 MARKS]

Four options are given as possible answers to the following questions. Choose the correct answer and circle the letter (A–D) in the grid at the end of this section. If you want to change your choice, put a cross through the wrong letter and circle your new choice.

**1.1** Which one of the following is DISCRETE data? (1)

**A)** the number of learners in a class
**B)** the mass of a parcel
**C)** the time taken to run 100 m
**D)** the height of a tree

**1.2** In a histogram, the bars ... (1)

**A)** are all the same height
**B)** are drawn horizontally
**C)** have gaps between them
**D)** TOUCH each other

**1.3** The MODAL CLASS of a grouped frequency table is the class with ... (1)

**A)** the largest values
**B)** the widest interval
**C)** the middle position
**D)** the highest FREQUENCY

**1.4** Salaries are 8 000 ; 9 000 ; 9 500 ; 10 000 ; 120 000. The best measure of the TYPICAL salary is the ... (1)

**A)** median
**B)** range
**C)** mode
**D)** mean

**1.5** For the data 4 ; 7 ; 7 ; 9 ; 13, the MEAN is ... (1)

**A)** 13
**B)** 8
**C)** 7
**D)** 9

**1.6** For the same data, the MEDIAN is ... (1)

**A)** 7
**B)** 8
**C)** 9
**D)** 8,5

**1.7** A sample is chosen so that every member of the population has an equal chance. That sample is ... (1)

**A)** grouped **B)** continuous

**C)** random **D)** biased

**1.8** Adding an OUTLIER far above the rest of the data will ... (1)

**A)** raise the median much more than the mean **B)** not change the mean

**C)** raise the mean much more than the median **D)** change neither

**1.9** In a survey of 26 learners, the frequencies of a table must add up to ... (1)

**A)** 100 **B)** 26

**C)** the number of classes **D)** the largest frequency

**1.10** Which question is LEAST likely to produce biased answers? (1)

**A)** Don't you agree that maths is the best subject? **B)** Why is maths better than art?

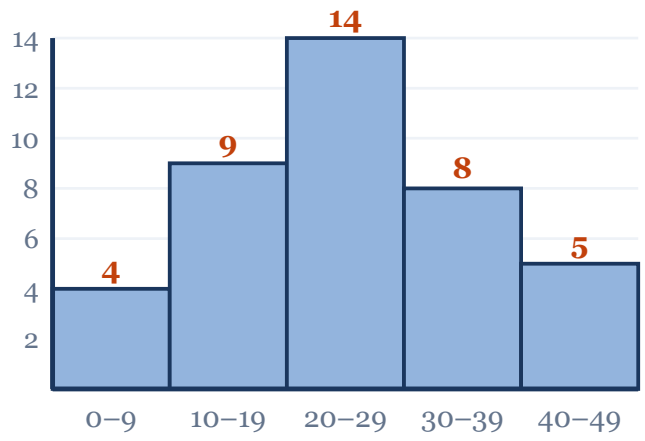
**C)** Do you dislike art as much as I do? **D)** Which subject do you enjoy most?

**ANSWER GRID — CIRCLE YOUR ANSWERS FOR QUESTION 1**

| | | | | |
|---|---|---|---|---|
| **1.1** | A | B | C | D |
| **1.2** | A | B | C | D |
| **1.3** | A | B | C | D |
| **1.4** | A | B | C | D |
| **1.5** | A | B | C | D |
| **1.6** | A | B | C | D |
| **1.7** | A | B | C | D |
| **1.8** | A | B | C | D |
| **1.9** | A | B | C | D |
| **1.10** | A | B | C | D |

## QUESTION 2 [14 MARKS]

The histogram below shows the amount of airtime, in rand, used in one month by each of 40 learners.




**2.1** Write down the modal class and explain what it tells you. (3)

**2.2** How many learners used less than R20? Express this as a percentage of the group. (4)

**2.3** How many learners used at least R20 but less than R40? What percentage of the group is that? (4)

**2.4** Explain why the exact range of the amounts cannot be read from this histogram, and give the smallest and largest values the range could have. **(3)**

## QUESTION 3 [10 MARKS]

A school wants to find out how far its learners travel to school each day.

**3.1** The principal asks only the learners who arrive by bus. Explain why this sample is biased and how it will distort the answer. **(4)**

**3.2** Describe a better sampling method, and say why it is better. **(3)**

**3.3** The distances are to be grouped into intervals. Explain why the intervals $0–10$, $10–20$, $20–30$ would be a poor choice. **(3)**

**TOTAL: 34 marks**

*This question paper consists of 3 questions.*

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