



**higher education
& training**

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

GENERAL EDUCATION AND TRAINING CERTIFICATE

NQF LEVEL 1

AET LEVEL 4 SITE-BASED ASSESSMENT

**LEARNING AREA : MATHEMATICS AND
MATHEMATICAL SCIENCES**

CODE : MMSC4

TASK : ASSIGNMENT

TIME : TWO WEEKS

MARKS : 50

This assessment task consists of 4 pages.

INSTRUCTIONS AND INFORMATION

1. Answer ALL the questions in the ANSWER BOOK.
 2. Calculators may be used unless stated otherwise.
 3. Answers must be rounded to TWO decimal places unless otherwise stated.
 4. Show ALL your calculations.
 5. Write legibly and present your work clearly.
 6. This ASSIGNMENT has to be submitted in TWO WEEKS' time.
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QUESTION 1

- 1.1 Amanda's taxi service charges R5,40 per kilometre for a trip. The table below shows the cost of a trip depending on the distance travelled.

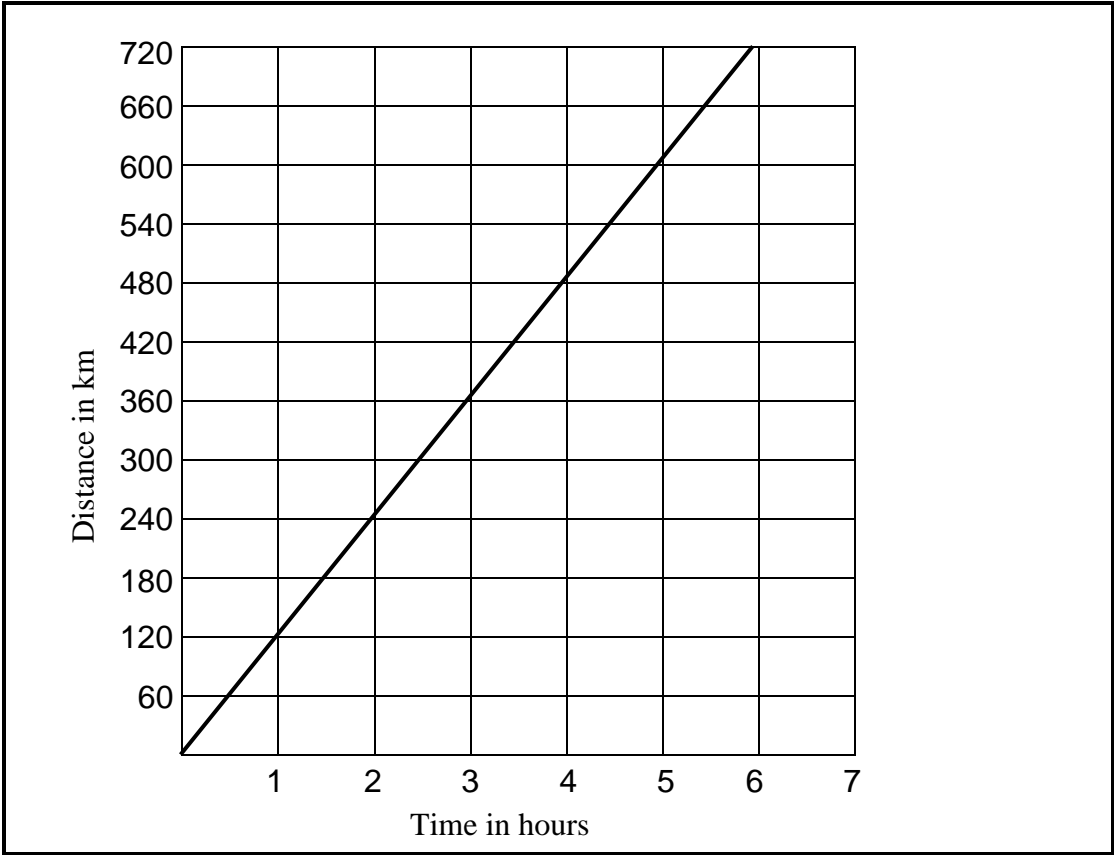
Distance travelled(<i>km</i>)	1	5	12	60	
Cost(<i>R</i>)	R5,40				R675,00

- 1.1.1 Copy and complete the table above. (4)
- 1.1.2 Write down the formula to represent the cost (*R*) of a trip with Amanda's taxi services as distance travelled (*d*). (1)
- 1.1.3 Use the formula to work out the cost for a trip of 98 km. Show all your calculations. (2)
- 1.2 Zanele's discount taxi service charges R20,00 plus R2,90 for each kilometre travelled.
- 1.2.1 Write down the formula to represent the cost (*c*) of Zanele's discount taxi service trip as dependent on the distance travelled (*d*). (1)
- 1.2.2 Use the formula to work out the cost for a trip of 60 km with Zanele's discount taxi services. (2)
- 1.2.3 Will it be cheaper to take a 6 km trip with Amanda's taxi services (as discussed in QUESTION 1.1) or with Zanele's discount taxi services? Motivate your answer. (3)
- 1.2.4 Will it be cheaper to take a 54 km trip with Amanda's taxi services (as discussed in QUESTION 1.1) or with Zanele's discount taxi service? Motivate your answer. (3)
- 1.2.5 For what distance travelled will it be cheaper to choose Amanda's taxi services over Zanele's discount taxi service? (2)

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QUESTION 2

2.1 A vehicle travels at an average speed of 120 km/h. The distance in km is measured as the vehicle travels for different periods of time in hours. The graph below shows a distance travelled for different periods of time.



2.1.1 Complete the table of values below by reading from the graph.

Time(<i>h</i>)						
Distance(<i>km</i>)						

(3)

2.1.2 What kind of a relationship is shown on the graph?

(1)

2.1.3 Identify discrete and continuous variable. Give ONE reason for your answer.

(2)

2.1.4 Use the graph to write down the distance travelled by the vehicle if the time taken is 2,5 hours.

(1)

2.1.5 Use the graph to determine the time taken if the vehicle has travelled a distance of 660 km.

(1)

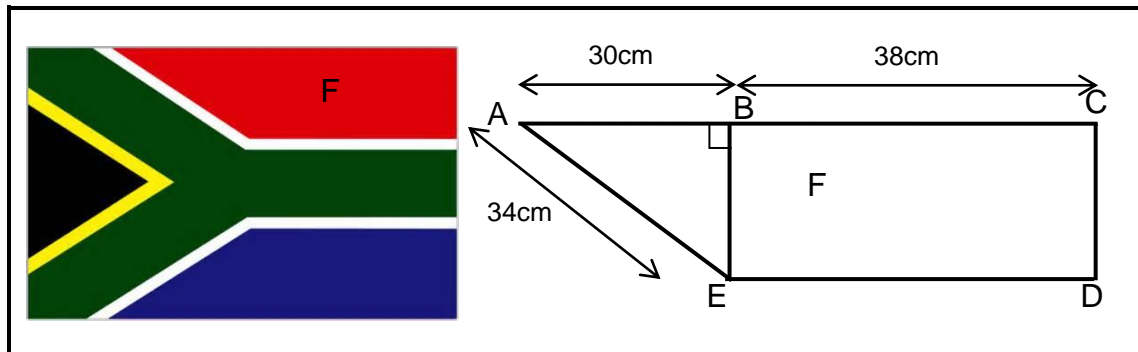
2.1.6 Give TWO reasons why you think it is important to adhere to the speed limits in different places.

(2)

[10]

QUESTION 3

- 3.1 The length and the width of the South African flag below are to the ratio 4 : 5. Part A of the flag is shown separately. $AB = 30$ cm, $BC = 38$ cm and $AE = 34$ cm.



- 3.1.1 Name any THREE geometrical shapes found in the South African flag. (3)
- 3.1.2 Calculate the perimeter of part F. (6)
- 3.1.3 Calculate the area of part F. (4)
- 3.2 Study the soccer ball below which is made up of 32 different regular polygons stitched together. This soccer ball is a sphere with a circumference of 68 cm when fully pumped.



- 3.2.1 Name TWO types of regular polygons that are used to make this soccer ball. (2)
- 3.2.2 What is the difference between a regular polygon and an irregular polygon? (1)
- 3.2.3 Determine the diameter of the soccer ball. Round your answer to TWO decimal places. (3)
- 3.2.4 Calculate the capacity (volume) of this soccer ball. Round your answer to TWO decimal places. (3)

[22]**TOTAL: 50**