GAUTENG
Community Education and Training
CET COLLEGE

GENERAL EDUCATION AND TRAINING CERTIFICATE

ABET LEVEL 4

POST INTERVENTION PRELIMINARY EXAMINATION

QUESTION PAPER

LEARNING AREA	**:**	**MATHEMATICAL LITERACY**
CODE	**:**	**MLMS4**
DATE	**:**	**28 September 2017**
TIME	**:**	**3 HOURS**
MARKS	**:**	**100**

This question paper consists of 10 pages and 1 Annexure.

INSTRUCTIONS AND INFORMATION

1.   Answer ALL the questions in your ANSWER BOOK.

2.   Calculators may be used, but you must show ALL calculations.

3.   Read the questions carefully before you write down your answers.

4.   Write legibly and present your work clearly.

5.   Number the answers correctly and clearly.

6.   Write the answers in blue or black ink.

7.   ALL answers must be rounded off to two decimal places unless stated.

QUESTION 1

1.1   Calculate the following and write your answers in the simplest form. Please show all your calculations.

    1.1.1 $350 - (21 + 11)$ (1)

    1.1.2 $3,4 - 2,44 + 5,13$ (1)

    1.1.3 $4\dfrac{2}{6} - 1\dfrac{2}{12} + 2\dfrac{1}{4}$ (3)

    1.1.4 $3,1 + 2,4 \div \dfrac{1}{2}$ (2)

    1.1.5 $\sqrt{196} - \sqrt[3]{216}$ (2)

    1.1.6 $7^4 \times 6^3$ (2)

    1.1.7   30% of R250,00   (2)

1.2   Which of the following is a bigger fraction?

    37 out of 50   or   44 out of 60   (1)

1.3   Write 1589 in expanded form.   (1)

1.4   Arrange the following in descending order.

    $0,75 ; \dfrac{1}{2} ; 60\%$

                                                                                                                      (3)
1.5   Express 1,21 as a mixed fraction.   (1)

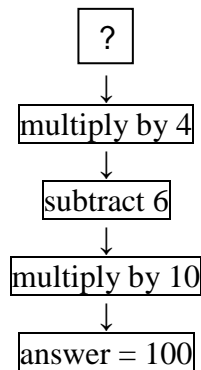1.6   Write 51% as a proper fraction.   (1)

1.7   Mary bought a shirt for R65,00 a skirt for R53,90 and a pair of shoes for R196,80.
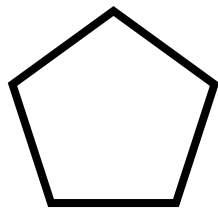
    1.7.1   How much did Mary spend?   (1)

    1.7.2   When Mary arrived home she discovered that the shirt and the skirt do not fit her. Her sister offered to buy the two items. She told her sister to pay her 10% less of what she paid. What did her sister pay her?   (3)
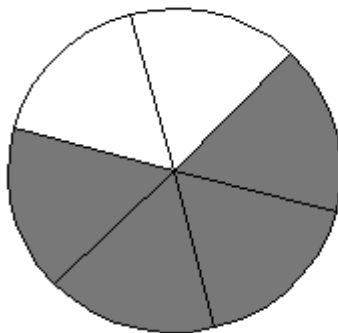
1.8   Replace the empty box with the correct number:

$$?$$
$$\downarrow$$
$$\text{multiply by 4}$$
$$\downarrow$$
$$\text{subtract 6}$$
$$\downarrow$$
$$\text{multiply by 10}$$
$$\downarrow$$
$$\text{answer} = 100$$

(1)

1.9   The following shape is a:

    A. square   B. pentagon   C. octagon   D. hexagon   (1)

1.10   What fraction of the whole is shaded?

(1)
[27]

QUESTION 2

2.1   Simplify the following ratios:

        2.1.1   R 50 000 : R 100 000   (1)

        2.1.2   4 weeks : 21 days   (2)

2.2   Khumbul' Ekhaya (reality tv show) helps Noko to find his long lost family. They travelled from Daveyton to Phalaborwa by car. The total distance of their single trip was 459 km. They left Daveyton at 07:00 in the morning and arrived at Phalaborwa at 12:45 the same day.

     During the journey they stopped at Lydenburg for 45 minutes for refuelling and a short rest. They also had refreshments at a cost of R114,90.

Source:sabc.co.za

        2.2.1   How long did their journey take?   (1)

        2.2.2   What was their actual driving time?   (1)

        2.2.3   Calculate their average speed.   (2)

        2.2.4   If their vehicle used 8 litres of petrol for every 100km driven, calculate the total amount of petrol they used for their journey.   (2)

        2.2.5   The cost of petrol at the time of their trip was R13,05 per litre. If the toll fees amounted to R 168,00, calculate the total cost of their trip including refreshments.   (3)

        2.2.6   Name one way in which you could help Khumbul'Ekhaya find other people's lost relatives.   (1)

2.3   During their journey from Daveyton to Phalaborwa, Khumbul'Ekhaya driver used the
       following map and the indicated route.
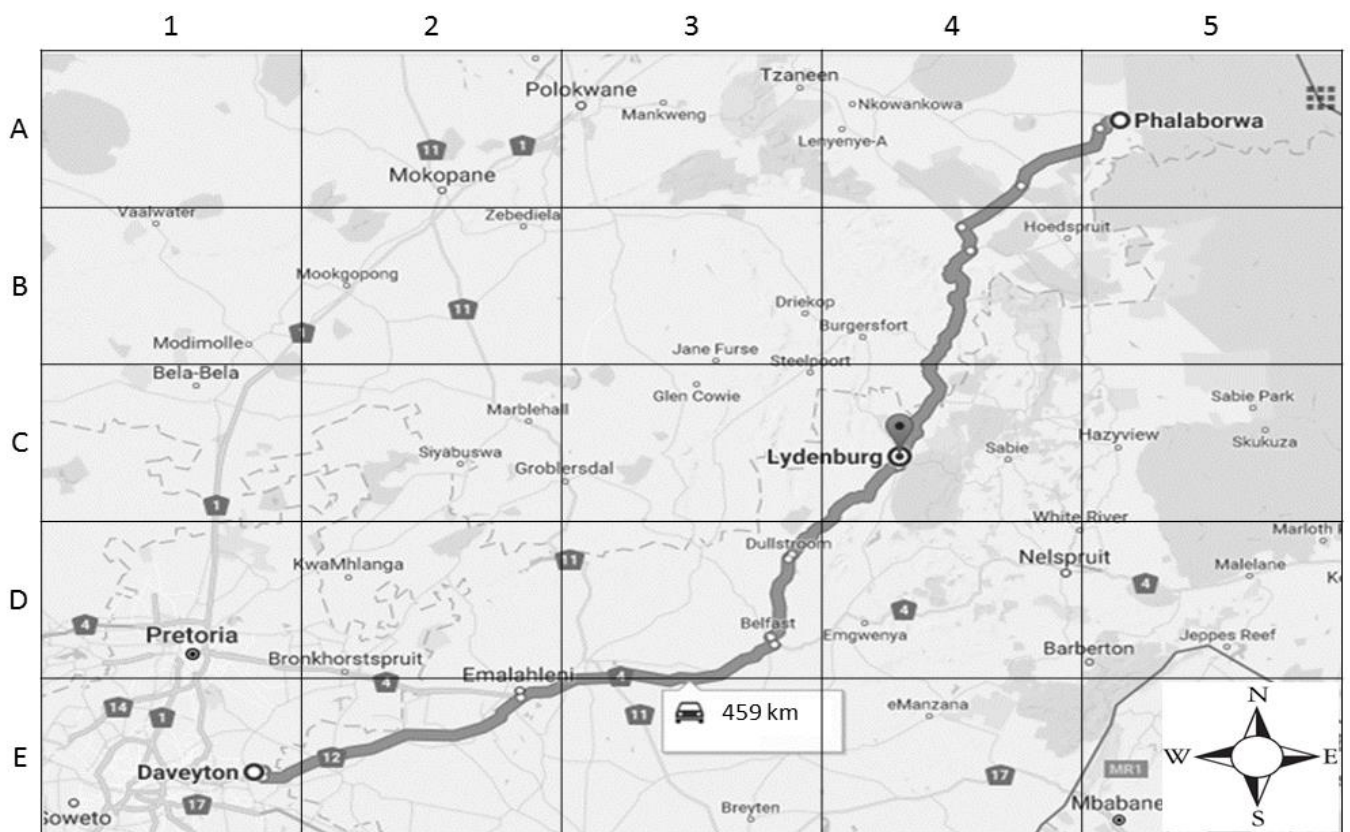
2.3.1   In which compass direction is Phalaborwa from Daveyton?   (1)

2.3.2   Name the first town they are going to pass when they leave Daveyton.   (1)

2.3.3   From Belfast to Dulstroom. In which direction did they drive?

                                                                                   (1)

2.3.4   Phalaborwa is situated in A5. Give the grid references of :
         (a) Nelspruit
         (b) Pretoria   (2)

2.3.5   Identify the name of the town found in grid reference A2.   (1)
                                                                                   [19]

QUESTION 3

3.1

> The ages of learners in a Level 4 class at Peter Lengene Community Learning Centre are as follow:
>
> 17 ; 55 ; 25 ; 35 ; 55 ; 42 ; 43 ; 26 ; 27 ; 45 ; 55 ; 25 ; 37 ; 36 ; 48 ; 49 ; 53 ; 50 ; 24 ; 16

     3.1.1   What is the age of the oldest learner at the centre?   (1)

     3.1.2   Calculate the average age (mean) of the learners.   (2)

     3.1.3   Arrange the data in a stem-and-leaf diagram.   (3)

     3.1.4   Determine the median.   (2)

     3.1.5   Determine the mode.   (1)

     3.1.6   Calculate the range.   (2)

     3.1.7   In your own view, what do you think is the reason for the 16 year old attending the Community learning centre instead of High school?   (1)

3.2   A survey was conducted at Tswinyane Community Learning Centre to determine the learners' favourite colour. The following was the outcome:

Green	Red	Red	Green
Red	Green	Purple	Red
Purple	Orange	Green	Purple
Orange	Green	Red	Green
Green	Pink	Green	Purple

     3.2.1   Use the outcome of the survey to complete the tally table. Complete the table in annexure A

Colour	Tally	Frequency
Red	/////	5
Green		
Purple		
Orange		
Pink		

                                                      (4)

     3.2.2   Complete the following bar graph which indicates the outcome of the survey. Complete the bar graph in annexure A.

         Favourate colour of learners Tswinyane Community Learning Centre
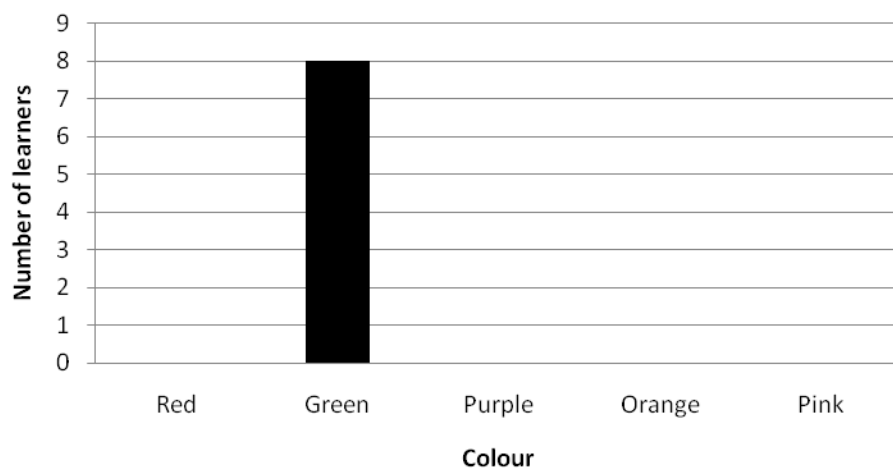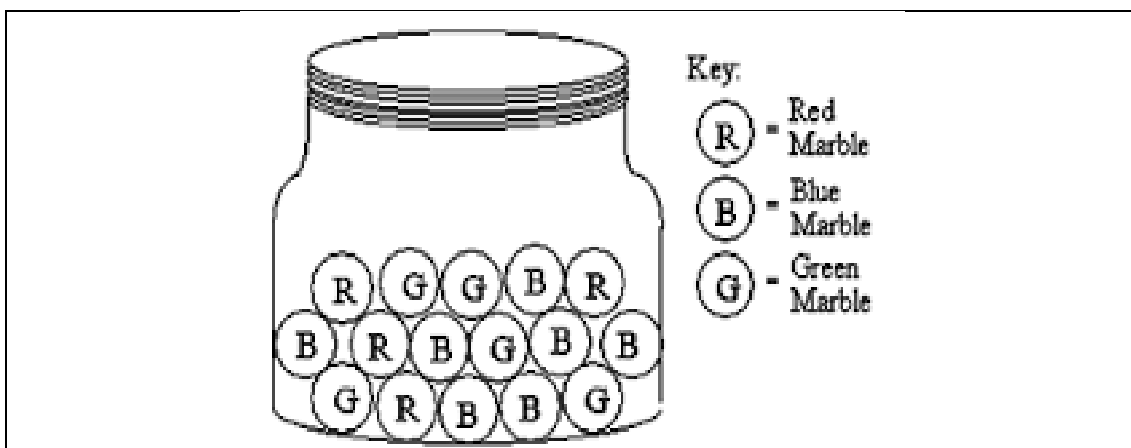
(4)

3.2.3   According to the graph, which colour is liked the most?   (1)

3.3   A jar contains red, blue and green marbles.

3.3.1   How many marbles are in the jar that are not green?   (1)

3.3.2   What is the probability that a red marble can be drawn?   (2)

3.3.3   What is the probability that a green marble can be drawn?   (1)

3.3.4   What is the probability that a marble that is blue and red can be drawn?   (2)

[27]

QUESTION 4

4.1　　Identify the names of the following geometric shapes　　　　　　(5)

4.1.1 _____　　　　4.1.2 _____　　　　4.1.3 _____

4.1.4 _____　　　　　　　　　4.1.5 _____

4.2　　A circle with a diameter of 13 m is given below.
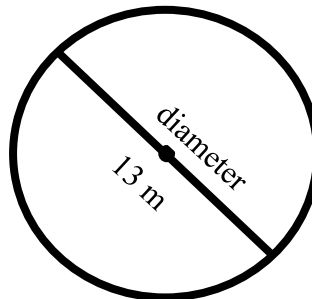
4.2.1　　Find the radius of the circle　　　　　　(1)

4.2.2　　Calculate the perimeter of the circle. Use the formula: $Perimeter = \pi d$,　　(2)
　　　　where $\pi = 3,14$.

4.2.3　　Determine the area of the circle. Use the formula: $Area = \pi \times r^2$, where　　(2)
　　　　$\pi = 3,14$.

4.3　　Calculate the total surface area of the rectangular prism.

5 m

3 m

700 cm
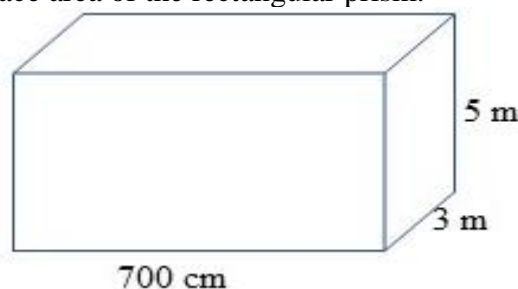
Total Surface Area of Rectangular Prism $= 2[(l \times b) + (l \times h) + (b \times h)]$　　　　(3)

4.4   A 3D solid is given below.
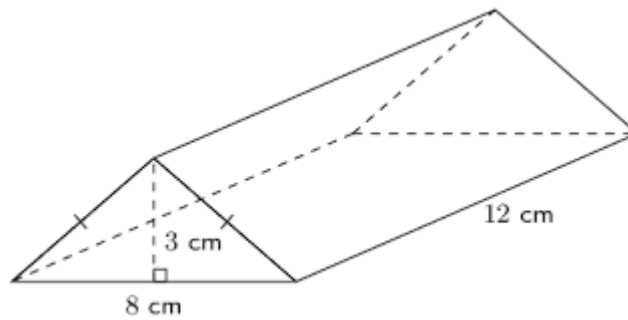
Calculate the volume of the 3D solid. Use the formula:

$$Volume = \frac{1}{2} \times base \times height \times Height$$

(3)

[16]

QUESTION 5

5.1   Given $\triangle ABC$
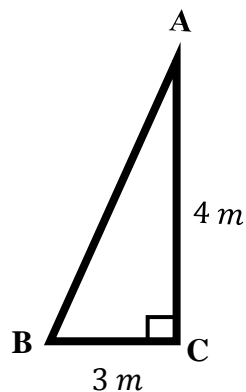
Calculate the length of AB

Use the theorem of Pythagoras $AB^2 = BC^2 + AC^2$

(3)

5.2   A ladder that is 11 metres tall is placed against the wall on the third storey window. At the bottom, the ladder is 7,5 metres from the base of the wall.

How high is the window from the ground?

Use the theorem of Pythagoras:
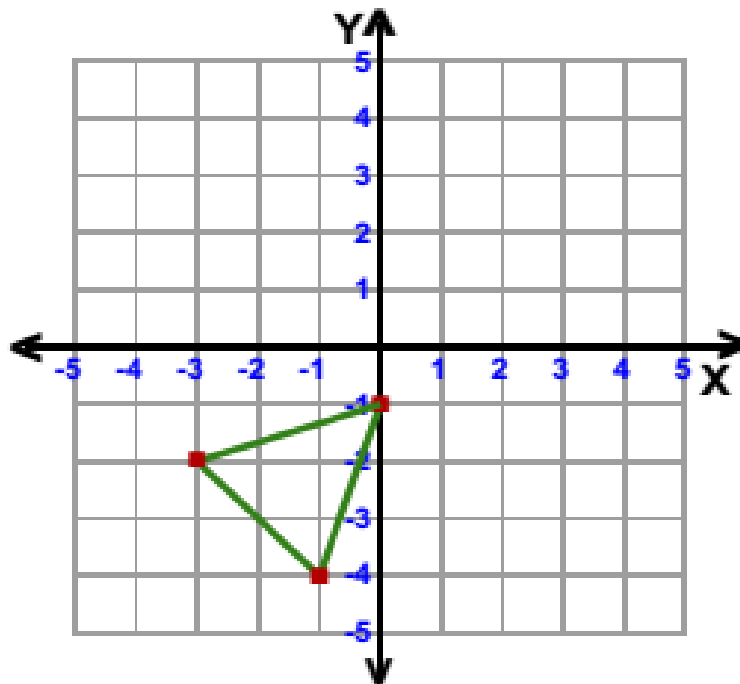
$$a^2 = b^2 + c^2$$

(4)

5.3   Name and describe the transformation of A to B
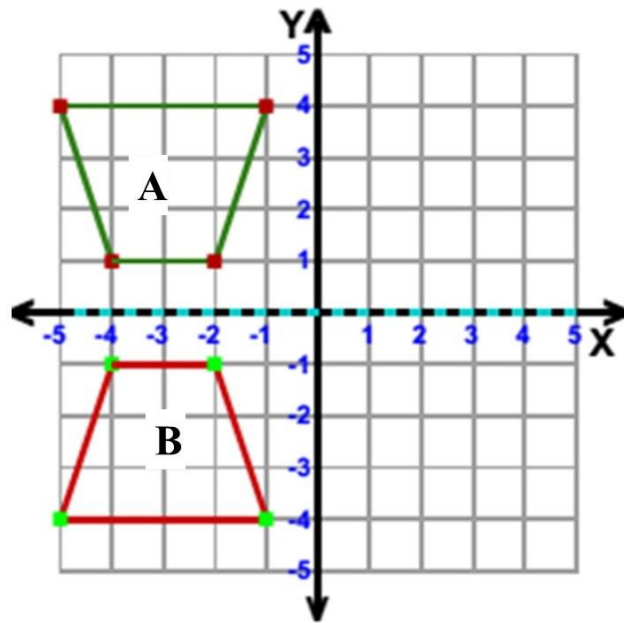
(2)

5.4   Show the translation of the triangle 3 units to the right and 2 units up. Use
ANNEXURE A to draw the transformed triangle.

(2)
[11]

GRAND TOTAL: 100

ANNEXURE

Hand in this ANNEXURE together with your answer book.

EXAMINATION NUMBER

CENTRE NUMBER

3.2.1

Colour	Tally	Frequency
Red	////	5
Green		
Purple		
Orange		
Pink		

(4)

Favourate colour of learners Tswinyane Community Learning Centre

(4)

5.4