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education

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Noord-Wes Departement van Onderwys
North West Department of Education
NORTH WEST PROVINCE

PROVINCIAL ASSESSMENT

GRADE 10

MATHEMATICAL LITERACY P1

NOVEMBER 2019

MARKS: 75

TIME: 1½ hours

This question paper consists of 8 pages, 1 annexure and 1 answer sheet.

INSTRUCTIONS AND INFORMATION

1.   This question paper consists of FIVE questions. Answer ALL the questions.

2.   Use the ANNEXURE to answer QUESTION 5.

3.   Answer QUESTION 3.3 on the ANSWER SHEET attached. Write your name in the space provided. Hand in the ANSWER SHEET with your ANSWER BOOK.

4.   Number the answers correctly according to the numbering system used in this question paper.

5.   Start EACH question on a NEW page.

6.   You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

7.   Show ALL calculations clearly.

8.   Round off ALL final answers appropriately according to the given context, unless stated otherwise.

9.   Indicate units of measurement, where applicable.

10.   Maps and diagrams are NOT drawn to scale, unless stated otherwise.

11.   Write neatly and legibly.

QUESTION 1

1.1   Michael Smith buys and sells lovebirds. He currently has 80 yellow birds and
        120 green birds. The birds are equally divided into five cages.

        1.1.1   How many lovebirds does Michael have in total?   (2)

        1.1.2   How many birds are in each cage?   (2)

        1.1.3   Write the ratio of yellow birds to green birds that Michael has.
                  Give your answer in simplest form.   (3)

        1.1.4   ONE of Michael's birds came out of the cage and flew away.
                  What is the probability that a yellow bird flew away?
                  Give your final answer as a decimal number.   (3)

1.2   The picture below shows the bird food that Michael gives to his lovebirds. He gives EACH
        cage every morning of the week the following:

        1 pack Sunseed bird seed and 800 mℓ of water.
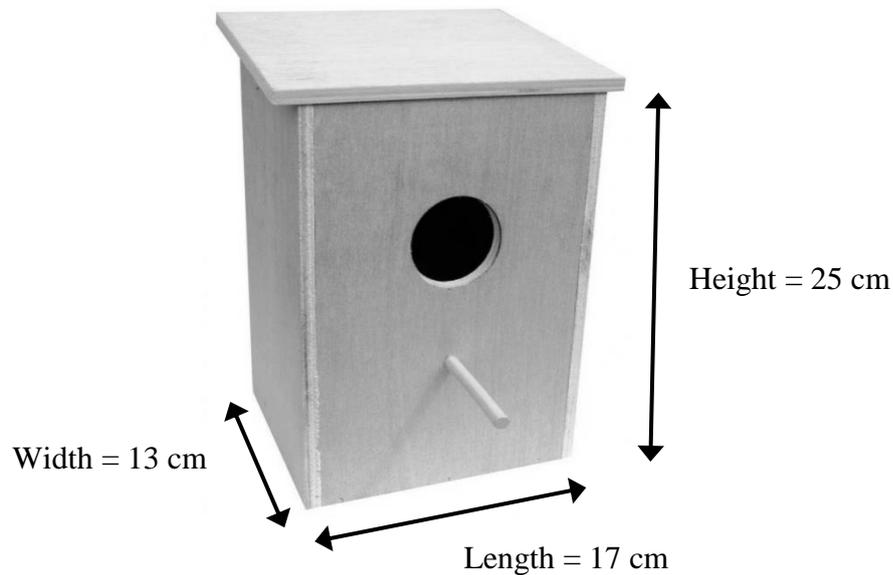

        1.2.1   Which make of bird seed does Michael give to his lovebirds?   (2)

        1.2.2   ONE pack of bird seed weighs 1,3 kg. Calculate how many kilograms of
                  seed Michael gives to his FIVE cages in ONE week.   (4)

        1.2.3   Convert 800 mℓ of water to litres.   (2)

                                                                                         [18]

QUESTION 2

Michael has some special boxes in each cage which his lovebirds breed and lay eggs in. The picture below shows the dimensions of ONE box. EACH rectangular box is made of wood and has a circular opening through which the birds can climb into the box.

Height = 25 cm

Width = 13 cm

Length = 17 cm

2.1 The diameter of the circular opening at the front of the box is 6 cm. Calculate the radius of the hole. (2)

2.2 Calculate how big the circular opening of the box is.

Use the formula:

Area of a circle = $\pi \times$ (radius)^2, where $\pi = 3,142$ (3)

2.3 Calculate the volume (space inside) of ONE box.

Use the formula:

Volume = length $\times$ width $\times$ height (2)

2.4 The area of the floor of the box is 221 cm^2. The roof of the box is 8% larger than the floor area. How big (in cm^2) is the roof of the box? (3)

2.5   Michael wants to build more boxes for his bird cages. He makes a list of things he will need. He sets up a budget (table below) to determine how much ALL the items will cost to build ONE box:

ITEMS	QUANTITY NEEDED PER BOX	COST PER ITEM	TOTAL PER ITEM
Wood	$2\ 000\ cm^2 = 0,2\ m^2$	R650,00 per m^2	**2.5.3**
Nails	9 per box	R0,50 per nail	$9 \times R0,50$ = R4,50
Stick (in front of box)	1 stick	R2,50 per stick	$1 \times R2,50$ = R2,50
Wood glue	1 bottle	R50,00 per bottle	$1 \times R50,00$ = R50,00
TOTAL COST TO BUILD ONE BOX:			**2.5.4**

Use Michael's budget to answer the following questions.

2.5.1   How much does one bottle of wood glue cost?   (2)

2.5.2   How many nails does Michael need to build a box?   (2)

2.5.3   Calculate how much the wood will cost per box?   (2)

2.5.4   Calculate the total expenses to build one box.   (2)

2.5.5   Michael budgeted to spend R2 000 to build new boxes for his bird cages. How many boxes can he build with his budgeted amount?   (2)

[20]

QUESTION 3

Michael sold some of his lovebirds to buy other birds. He sold the birds for R25 each. The table below shows the amount of money he made from his sales.

Number of birds	0	1	2	5	10	20
Money received from sales	R0	R25	R50	**3.2**	R250	R500

3.1   Name the independent variable of the data given.   (2)

3.2   Calculate how much money Michael will get if he sells only 5 birds.   (2)

3.3   Use the table above to draw a line graph on the ANSWER SHEET to show how much money Michael made from his bird sales. Clearly label the axes and give the graph a suitable heading.   (4)

3.4   Is the number of birds discrete or continuous data?   (2)

[10]

QUESTION 4

4.1   Michael and his brother, Peter, went to Durban during their annual vacation to visit family. During their vacation, they explored Durban and visited a few places. The table below shows THREE activities they did with each one's costs and times:

Moses Mabhida Stadium	R50 per person R70 per person for the *SkyCar* cable car ride
uShaka Marine World Times: 09:00 – 17:00	R210 per person for a package to visit *Seaworld* and *Wet 'n Wild* water park
Take a trip on Umgeni Steam Train Times: Morning 08:30 – 11:45 or Afternoon 12:30 – 16:00	R260 per person

Use the information above to answer the following questions.

4.1.1   Calculate the total cost per person to visit the Moses Mabhida Stadium and to take a ride on the *SkyCar* cable car.   (2)

4.1.2   Which ONE of the THREE activities costs the least per person?   (2)

4.1.3   Michael and Peter took the afternoon ride with the Umgeni Steam Train. How long did the ride take?   (2)

4.2   During the brother's visit to uShaka Marine World, they went to a restaurant and received the following bill:

<div style="border:1px solid black; padding:1em;">

Moyo uShaka

uShaka Marine World
Tel no: 031 632 6209
VAT NO: 123654789

28/09/2019   15:38
Waiter: Peter Mofokeng

uShaka Lamb Bunny Chow	R79,00
Moyo Burger	R65,00
Milkshake – Chocolate	R35,50
Fresh Fruit Juice – Mango	R27,00
TOTAL (VAT included)	R258,50

----- VAT INVOICE -----
15% VAT

</div>

Use the restaurant slip above to answer the following questions.

4.2.1   What is Moyo uShaka restaurant's telephone number?   (2)

4.2.2   Which month did Michael and Peter went on holiday?   (2)

4.2.3   What flavour of milkshake did one of the brothers drink?   (2)

4.2.4   Calculate only the VAT amount of their meal.   (2)

4.2.5   It is common to give 10% of your total bill as a tip to waiters. Calculate the tip (rounded to the nearest rand) they gave their waiter.   (3)

[17]

QUESTION 5

During Michael and Peter's HOLIDAY they went to the movies. The seating plan of the theatre is given on the ANNEXURE. Study the layout of the seating plan and answer the questions that follow.

5.1   How many rows does this movie theatre have?   (2)

5.2   How many seats are in row G?   (2)

5.3   How many seats are reserved for wheelchair use in total?   (2)

5.4   If you move from seat D8 to seat D15, how many seats did you move to the right?   (2)

5.5   Name ONE seat number that is the furthest from the screen?   (2)

[10]

TOTAL: 75

ANNEXURE

QUESTION 5

NAME AND SURNAME: _____**GRADE 10**_____

ANSWER SHEET

QUESTION 3.3