KWAZULU-NATAL PROVINCE

EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 10

Stanmorephysics.com

MATHEMATICAL LITERACY

COMMON TEST

SEPTEMBER 2024

Stanmorephysics.com

MARKS: 75

TIME: 1 ½ hours

This question paper consists of 6 pages and an addendum with 2 annexures.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.
2. Use the ANNEXURES in the ADDENDUM to answer the following questions:
   - ANNEXURE A for QUESTION 3.
   - ANNEXURE B for QUESTION 4.4.
3. Number the answers correctly according to the numbering system used in this question paper.
4. Start EACH question on a NEW page.
5. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
6. Show ALL calculations clearly.
7. Round off ALL final answers to two decimal places.
8. Indicate units of measurement, where applicable.
9. Maps and diagrams are NOT necessarily drawn to scale, unless stated otherwise.
10. Write neatly and legibly.

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QUESTION 1

1.1

Miss Cabe owns a house in Dundee. She pays a tariff of R443,96 for sanitation, which is charged based on her property area of 100m by 100m.

NOTE: Sanitation refers to waste water that is drained from a household.

Use the information above to answer the questions that follow.

1.1.1 Define the term *tariff* according to the given context. (2)

1.1.2 Write down, to the nearest 100, the cost of the sanitation tariff. (2)

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1.1.3 Identify the shape of Miss Cabe's property area. (2)

1.1.4 Convert 100 metres to centimetres. (2)

1.1.5 Write the amount of money paid by Miss Cabe for sanitation in words. (2)

1.16 Determine the probability of having the distance units in the information above given in millimetres. (2)

1.2

Miss Cabe saw a house plan similar to her dream house. The plan has a scale of 1:100.

Use the information above to answer the questions that follow.

1.2.1 Identify the type of scale used above. (2)

1.2.2 Interpret the scale 1:100 in the given context. (2)

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QUESTION 2

2. The Mthethwa's family realised that they are spending too much money. They examined their expenditure for the month of July. TABLE 1 below shows their expenditure.

TABLE 1: MTHETHWA FAMILY'S EXPENDITURE FOR JULY.

Bond repayment on house	R5 000
Water and electricity	R1 000
School fees for 3 children	R1 200 (each)
Insurance	R1 000
Taxi Association contributions	R 500
Bank charges	R 160
Entertainment and eating out	R1 000
Petrol	R3 500
Food	R3 000

[Source:siyavula.com]

Use TABLE 1 and the information above to answer the questions that follow.

2.1 Show that the total monthly school fees for 3 children is R3600. (2)

2.2 Calculate the Mthethwa family's total monthly expenses. (2)

2.3 Define the term *fixed expenses* according to the given context. (2)

2.4 Identify THREE fixed expenses in the table above. (3)

2.5 Write as a ratio the expenditure amount of the Bond repayment on the house to the water and electricity expenditure amount in simplest form. (3)

2.6 Give one reason why food is classified as a variable expense. (2)

2.7 Mr. Mthethwa claims that the expenditure amount of food is 6 times the amount of Taxi Association contributions. Verify, showing ALL calculations, if his statement is CORRECT. (5)

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QUESTION 3

3. Mr Mahlambi's daughter has a floor plan of the area around her school. ANNEXURE A shows the floor plan of the school area.

Use ANNEXURE A to answer the questions that follow.

3.1 Determine the number of houses on the plan. (2)

3.2 Identify the building that is west of the supermarket. (2)

3.3 In which general direction does the library door face? (2)

3.4 Write down the probability of a house starting with letter A, as a percentage. (3)

3.5 Mr Mahlambi claimed that Catherine's, Ariana's and Ruth's house get a lot of sunlight in the afternoon. Critically comment on his remarks. (3)

3.6 The Twisted Lane is situated next to the school. Give TWO reasons why this type of lane is next to the school. (4)

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3.7 The scale used on the plan is 1mm representing 10 cm in real life.

3.7.1 Write the given scale in number format. (2)

3.7.2 Measure the northern side of the plan and use the given scale to calculate the actual length (in m). (4)

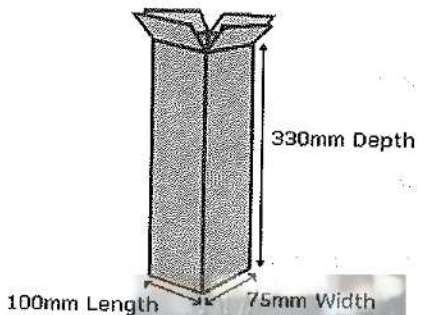
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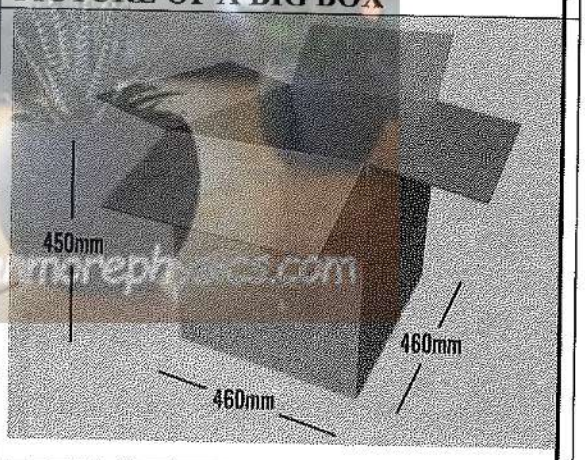
QUESTION 4

4. Miss Khumalo wants to sell water bottles to her grade 8 learners as part of an EMS fundraising project. Bottles will be packed into boxes and then delivered to school. The water will be packed in small boxes which will then be packed in big boxes for transportation. The small boxes will be packed in an upright position inside the big box. The picture and dimensions of the boxes are shown below.

PICTURE OF A SMALL BOX



PICTURE OF A BIG BOX



[Source :www.s3.amazonaws.com]

Use the information above to answer the questions that follow.

4.1 Write down the name of the base of the shape base of the big box. (2)

4.2 Determine the number of small boxes that will fit into the length of the big box. (3)

4.3 Miss Khumalo stated that 6 small boxes will fit in a base of the big box if the length of a small box is placed against the length of big box. Verify, with calculations, if her statement is correct. (5)

4.4 Miss Khumalo will be using a sun shelter when selling the water bottles. ANNEXURE B shows the picture with the assembly instructions of a Sun Shelter. Assembly pictures are not in the order of the pictures given.

Use ANNEXURE B to answer the questions that follow.

Match Column A, assembling steps of the tent, with Column B, consisting of pictures. Write only the number and the step i.e 1. A. (8)

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TOTAL MARKS: 75

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ADDENDUM

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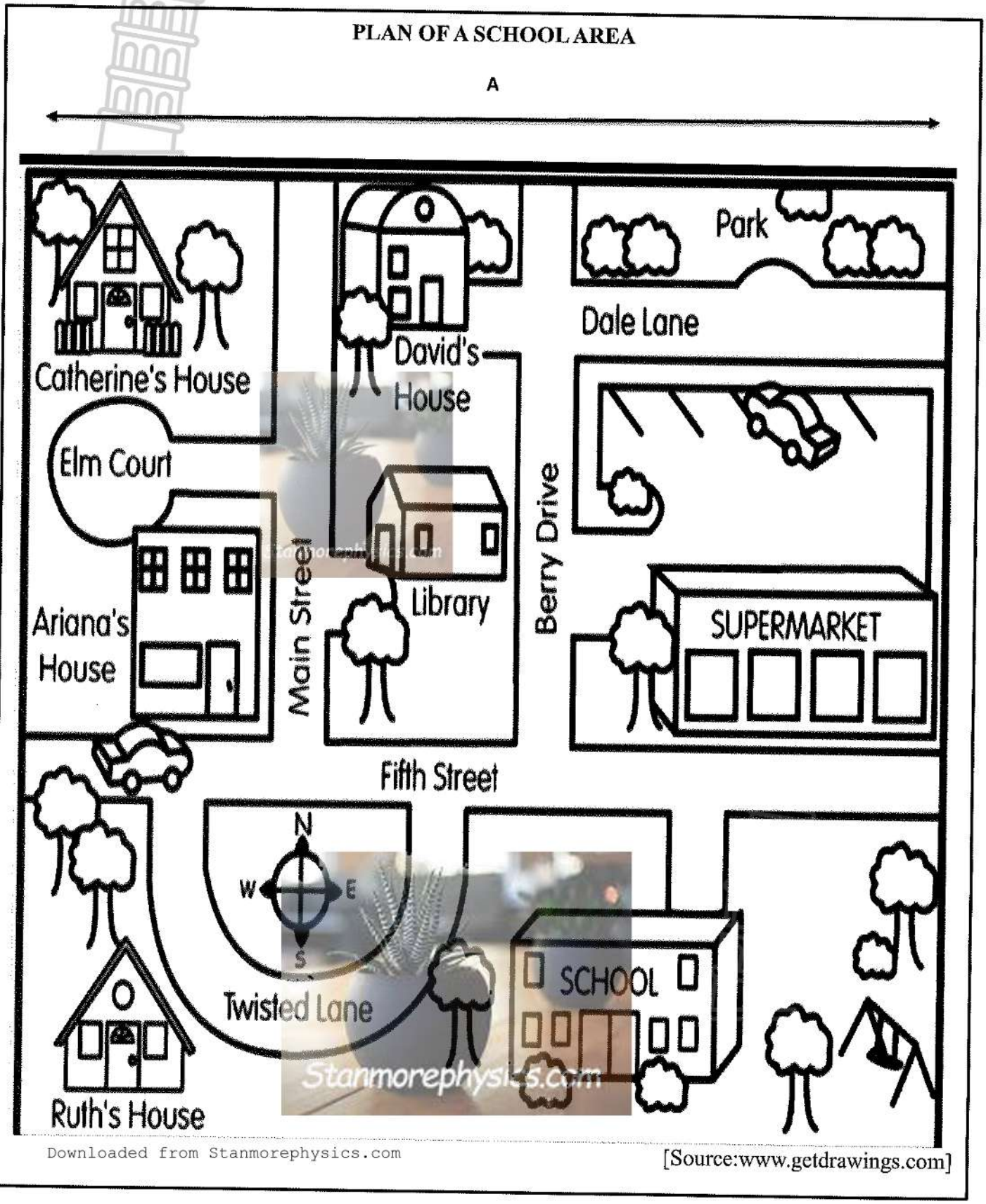
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ANNEXURE A

QUESTION 3

PLAN OF A SCHOOL AREA



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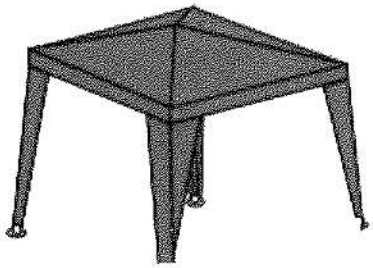
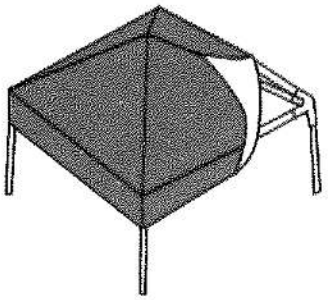
[Source:www.getdrawings.com]

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ANNEXURE B

QUESTION 4.4

SUN SHELTER ASSEMBLY INSTRUCTIONS

Column A	Column B
1. Assembly top frame. One corner at a time, insert poles on top of the leg section into the corner hubs.	**A.** 
2. Hook the leg hook that is attached to the bottom corners of the shelter. 	**B.** 
3. Align the shelter corner with a side of the frame and gentle pull the cover over the top of the frame assembly.	**C.** 
4. Mount your shelter for added stability as it is ready to be used	**D.** 

[Source: www.yumpu.com]

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