Hoërskool Johan Jurgens
Mathematics
Grade 8
November Test
Paper 2

Examiner: Ms. C. Giezing
Moderator: Ms. M. Botha

Time: 1Hour 30minutes
Date: 3 November 2025
Total: 60 marks

Name and Surname: _____

Grade: 8_____

Instructions and information:

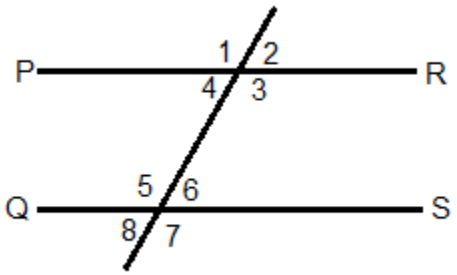
1. Please write your name, surname and grade in the space provided on the question paper.
2. Please write your name, surname, grade and date on the folio paper.
3. This question paper consists of **FIVE** questions. Answer **ALL** the questions.
4. Read all the questions carefully and think before you answer.
5. Show **ALL** formulae, substitutions and **ALL** calculations.
6. Non- programmable calculators may be used.
7. You may use appropriate mathematical instruments.
8. Round off to two decimal places, unless otherwise stated.
9. Number the answers correctly according to the numbering system used in this question paper.
10. Leave **ONE** line between two sub-questions, for example between QUESTION 2.1 and 2.2.
11. Write with a blue pen and cross out with a pencil if you made a mistake.
12. If you do your calculations in pencil it **WILL NOT BE MARKED**.
13. Please write neatly and legibly. (If I can't read it I can't mark it!).
14. Take a deep breath, you got this!
15. **GOOD LUCK!!!**

SECTION A:

QUESTION 1: MULTIPLE CHOICE

Various options are given for the following questions choose the correct answer and write it down on your answer sheet, for example **1.6 C**

1.1 Which pair of angles has a sum of 180º? (1)



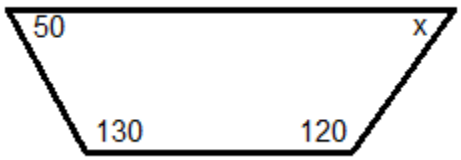
A. < 5 and < 7

B. < 3 and < 6

C. < 1 and < 5

D. < 4 and < 6

1.2 What is the value of x ? (1)



A. 130º

B. 110º

C. 60º

D. 50º

1.3 Which of the following statements is true? (1)

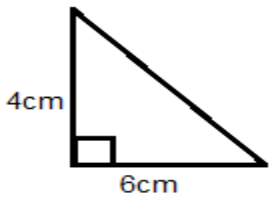
A. Figures that are congruent are similar in all aspects.

B. Figures that are similar are congruent.

C. All rectangles are similar.

D. All squares are congruent

1.4 Use the Theorem of Pythagoras and calculate the hypotenuse. (1)



A. 10cm

B. 53cm

C. $2\sqrt{13}$

D. $2\sqrt{16}$

1.5 Calculate the perimeter and area of the following diagram. (1)

A. Perimeter = 10cm; Area = 10cm²

B. Perimeter = 16cm; Area = 18cm²

C. Perimeter = 28cm; Area = 20cm²

D. Perimeter = 20cm; Area = 24cm²

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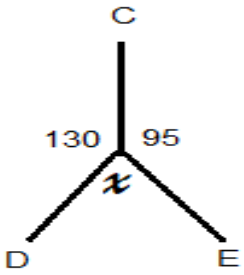
SECTION B:

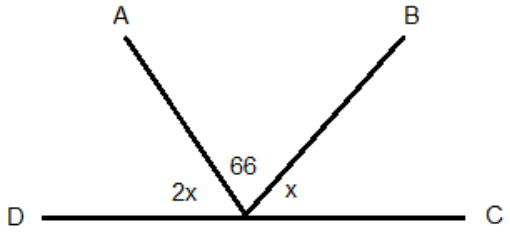
QUESTION 2: GEOMETRY OF STRAIGHT LINES

Study the following diagrams and answer the questions that follows:

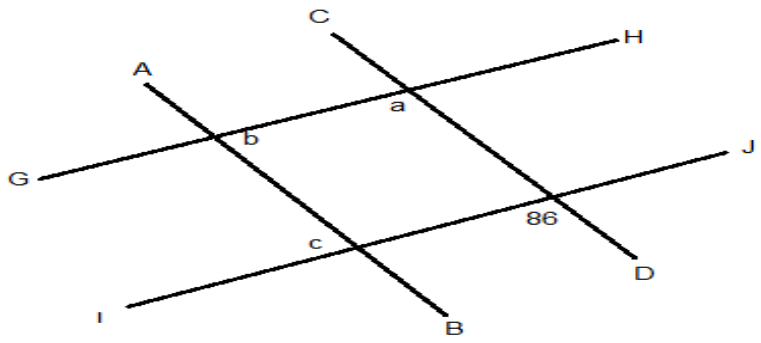
2.1 Calculate the value of x, and give reasons for your answer (3)



2.2 Show all your calculations, and give reasons, solve for x (4)



2.3 Calculate, with reasons, the value of the angles indicated by small letters. (6)



2.3.1. < a

2.3.2. < b

2.3.3. < c

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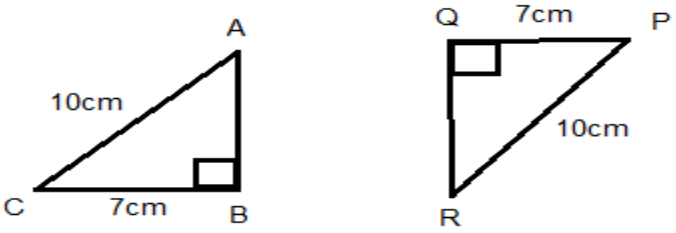
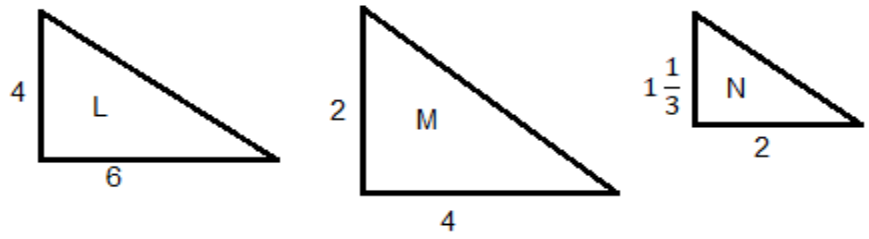
QUESTION 3: GEOMETRY OF 2D SHAPES

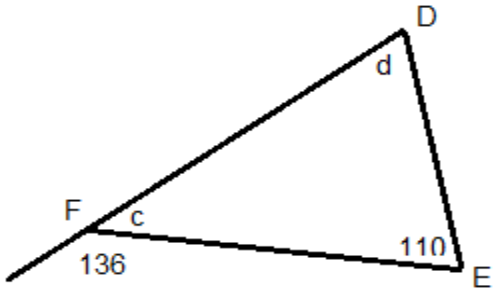
3.1.1 Determine if the following pairs of triangles are congruent. Give reasons for your answer. (1)



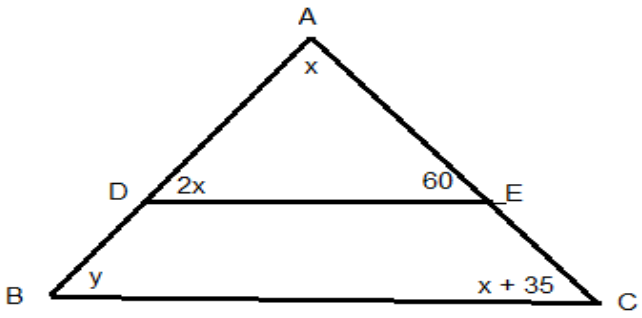
3.1.2 Triangles: L; M and N are supposed to be similar. Which one does not fit? (1)



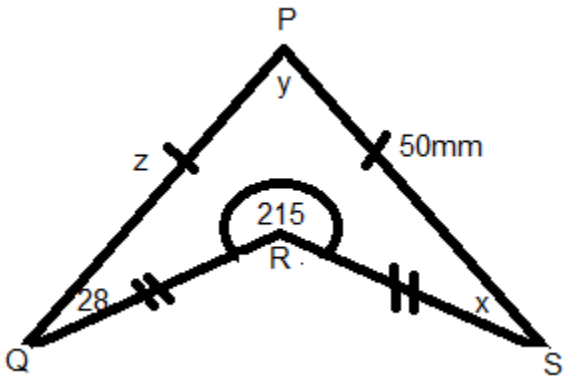
3.2 Calculate the values of < c and < d. Give reasons for your answers. (4)



3.3 Determine x and y, with reasons. (4)



3.4 Determine, with reasons, the values of x, y and z. (6)



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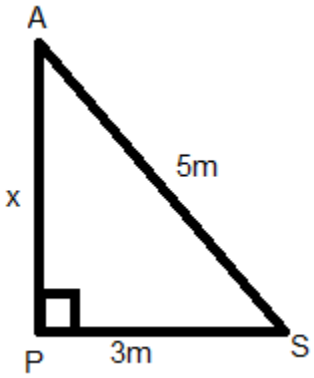
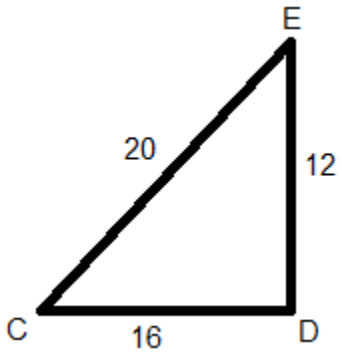
QUESTION 4: THE THEOREM OF PYTHAGORAS

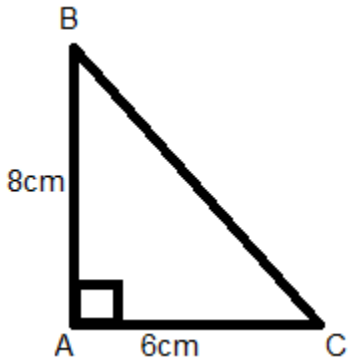
4.1 Study the figure and calculate x (2)



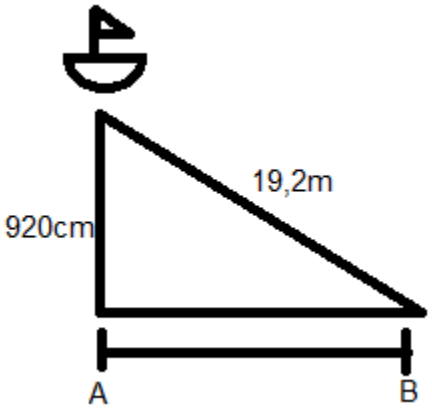
4.2 Determine whether triangle EDC is a right-angle (2)



4.3 Calculate the length of BC (3)



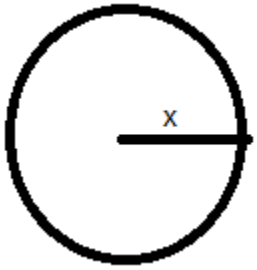
4.4 A small boat sails on the Vaal river. At a given time the slant distance to the boat is 19,2m and the boat is 920cm from the side of the river. Calculate the perpendicular distance AB. (4)



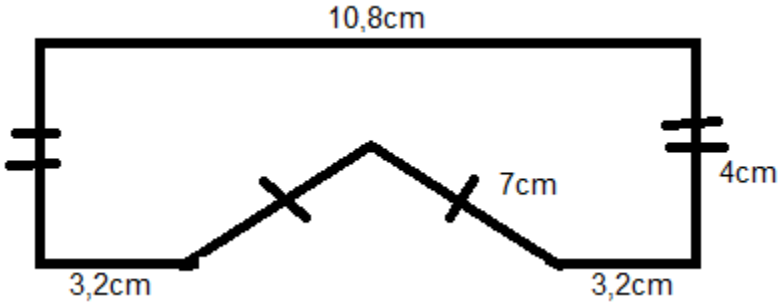
[11]

QUESTION 5: Area and Perimeter

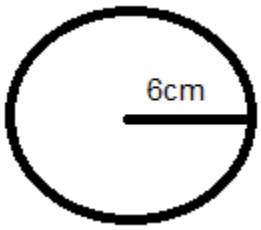
5.1 Write down the formula for area in terms of x for the following figure. (2)



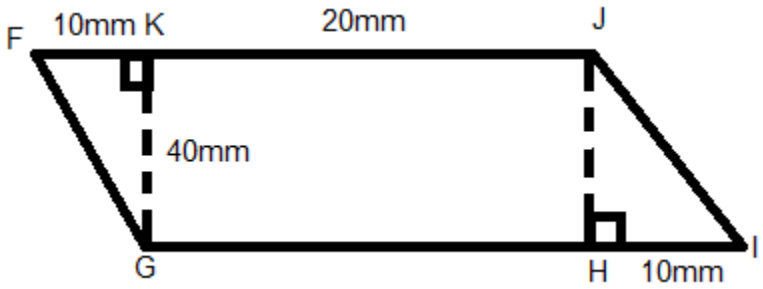
5.2 Calculate the perimeter of the following polygon. (3)



5.3 Calculate the circumference and area of the circle with radius 6cm. (4)



5.4 For quadrilateral FGIJ calculate the area. (6)



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TOTAL: 60