



EXAMINATIONS COUNCIL OF ZAMBIA

JUNIOR SECONDARY SCHOOL LEAVING EXAMINATION (GRADE 9) - 2007

MATHEMATICS 401/1

PAPER 1

(INTERNAL & EXTERNAL CANDIDATES)

TIME: 2 HOURS MARKS: 50

NO READING TIME.

INSTRUCTIONS TO CANDIDATES

1. Pull out the Answer Sheet from the question paper.
2. Write your name, examination number and school/centre on the Answer Sheet.

This paper consists of Sections A and B only. There are thirty (30) questions in this paper.

Section A: Answer all questions. Write down the letter of the answer by marking a cross (X) on the Answer Sheet provided.

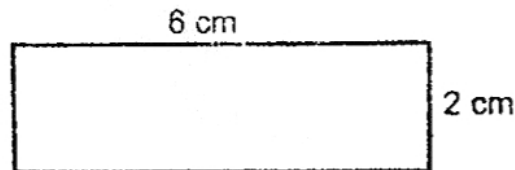
Section B: Answer all questions. Write down the answers in the spaces provided on the Answer Sheet.

Note: No paper for rough work is to be provided. Any working should be done on the question paper in the spaces provided.

1. Cell phones and calculators are not allowed in the examination room.
2. Only the Answer Sheet should be handed in.

[10 MARKS]

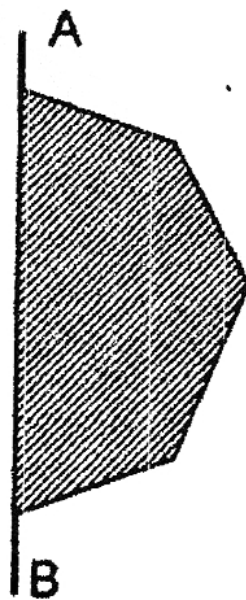
- 1 $\frac{5}{8}$ expressed as a decimal number is ...
A 0.0256
B 0.580
C 0.625
D 0.850
E 0.25
- 2 Evaluate $3 + 7 \times 2 - 4$
A -20
B -18
C -11
D 13
E 16
- 3 The diagram below is a rectangle of length 6 cm and breadth



If the rectangle is cut into squares of side 2 cm, find the number of squares that can be obtained. www.eczpastpapers.com

- A 2
B 3
C 4
D 6
E 12
- 4 The product of the first three prime numbers is ...
A 6
B 24
C 30
D 105
E 106
- 5 Simplify $4x - 2y + 5x + 2y$
A $9x$
B $-4xy$
C $9x + 2y$
D $4y$
E $9x - 4y$

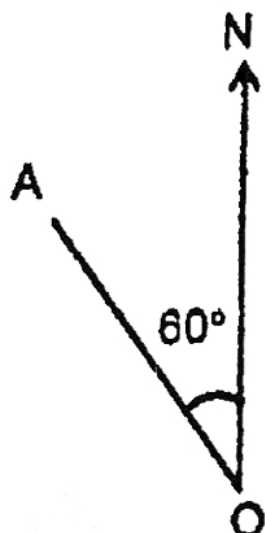
- 6 Write down the following in ascending order: -9, +6, -5, +3, -1.
- A +6,+3,-1,-5,-9
B -9,-5,-1,+3,+6
C -1,+3,-5,+5,+6,-9
D -1,-5,-9,+3,+6
E +3,+6,-1,-5,-9
- 7 Factorise completely $3x^2 - 27xy$
- A $3x(x - 9y)$
B $x(3x - 27y)$
C $3x(x + 9y)$
D $3xy(x - 9)$
E $-24xy$
- 8 AB is a line of symmetry of a regular polygon, part of which is shown. How many lines of symmetry has the completed figure?



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- A 0
B 2
C 4
D 6
E 8

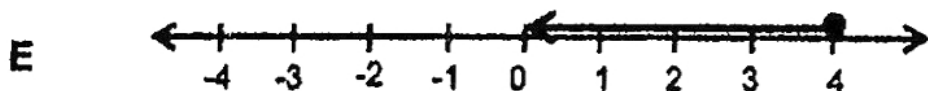
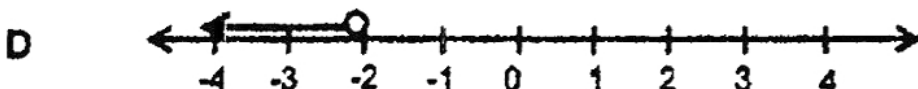
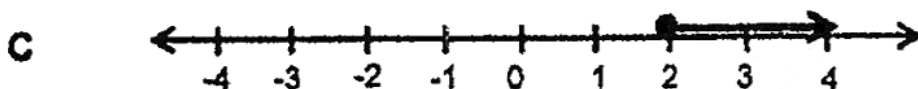
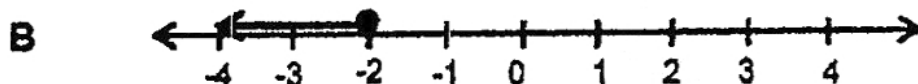
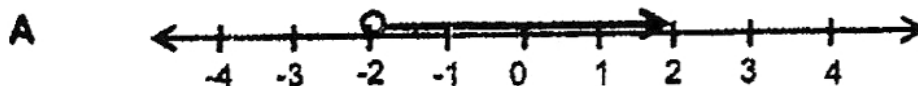
9 The bearing of A from O is.....



- A 60°
- B 80°
- C 120°
- D 300°
- E 360°

10 Which of the number lines below represents the solution of the inequality $\frac{-x}{2} + 1 \geq 2$?

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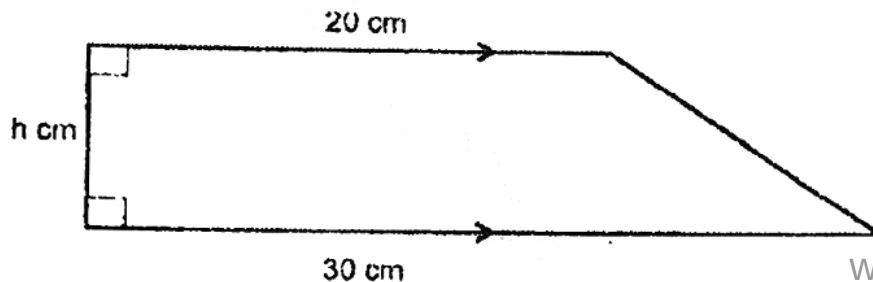
SECTION B [40 MARKS]

- 11 The table below shows the number of candidates who stood for local government elections in the given towns.

Town	Kitwe	Ndola	Chingola	Lusaka
No of candidates	55	45	40	60

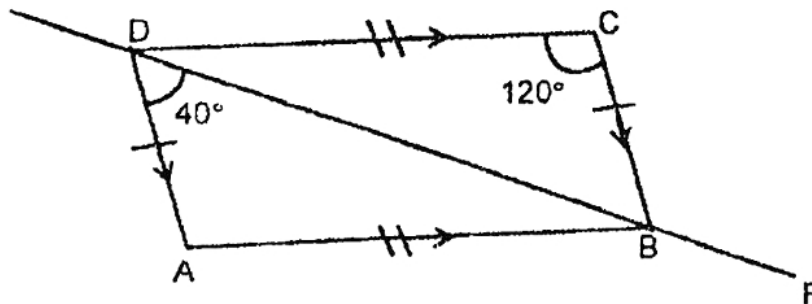
If this information is represented on a pie chart, calculate the angle representing the number of candidates in Ndola.

- 12 The diagram below is a trapezium with two parallel sides of length 30 cm and 20 cm. If the area of the trapezium is 200 cm^2 , calculate its height represented by h .



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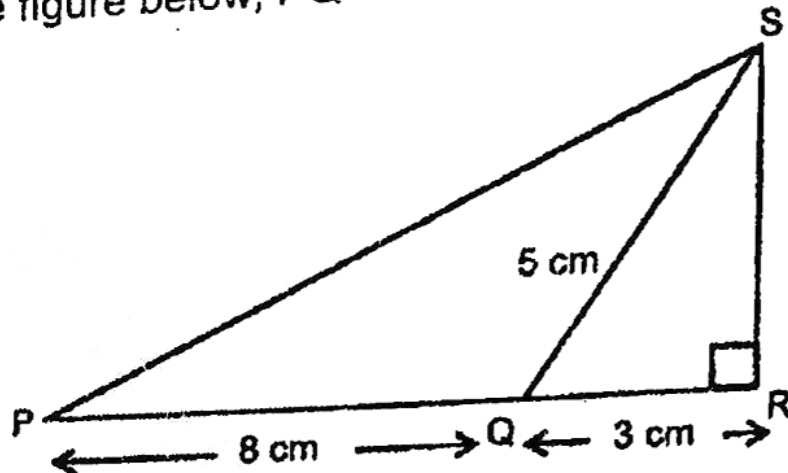
- 13 Solve the equation $\frac{x-2}{2} = \frac{5+x}{3}$
- 14 The ratio of male students to the female students in a college is 5:3. If the number of male students is 1 050, find the total number of students in this college.
- 15 In the diagram, ABCD is a parallelogram in which $\angle BCD = 120^\circ$ and $\angle ADF = 40^\circ$



16 A swimming pool is filled in 30 hours by two identical pumps. How long would it take to be filled if five similar pumps were used?

17 If $m(x + y) = 3w$, make y the subject of the formula.

18 In the figure below, $PQ = 8$ cm, $QR = 3$ cm and $QS = 5$ cm



Calculate

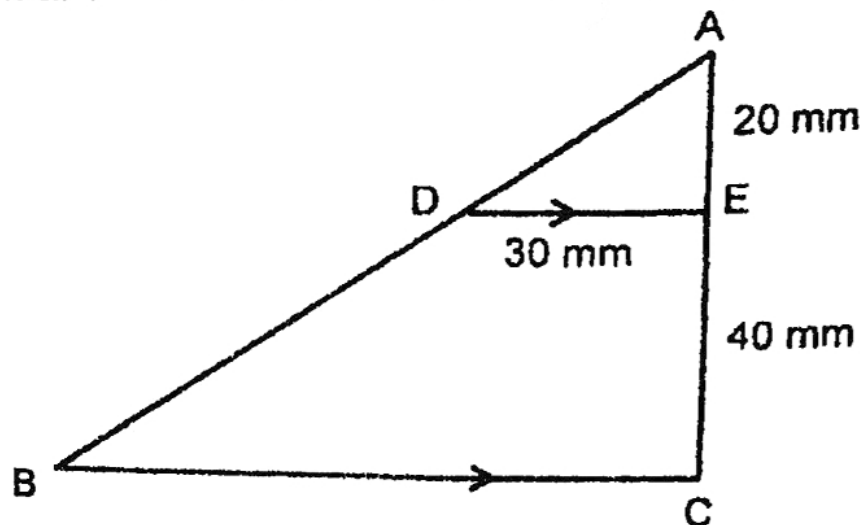
(a) RS

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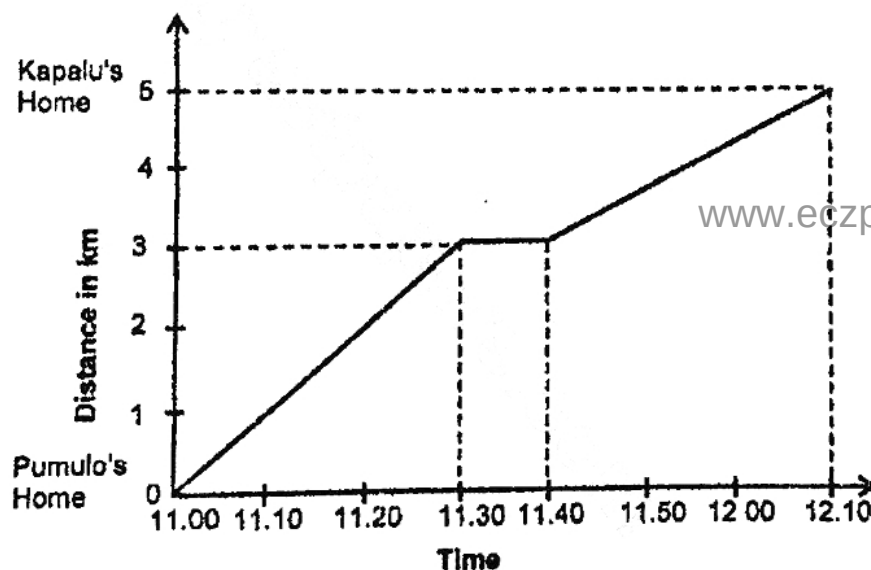
(b) The area of triangle PQS

19 Find $403_{\text{five}} \times 3_{\text{five}}$, giving your answer in base 5.

20 In the figure below, DE is parallel to BC , $AE = 20$ mm, $EC = 40$ mm and $DE = 30$ mm. Calculate the length of BC .

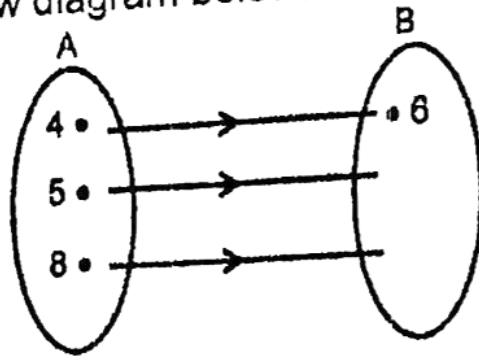


- 21 A survey of 100 families showed that 9 had a TV set only and 28 had an electric cooker only. If 40 had neither, how many had both?
- 22 Solve the simultaneous equations: $x + y = -7$ and $x - y = -3$
- 23 Chiza is given K18 500 for his \$3.70. How much Kwacha would he get for one dollar (s)?
- 24 One Saturday, Pumulo made a trip to visit his friend Kapalu who lives 5 km away. The graph shows Pumulo's journey.
- (a) How long did he rest along the journey?
- (b) Find the average speed between 11.00 hours and 11.30 hours.



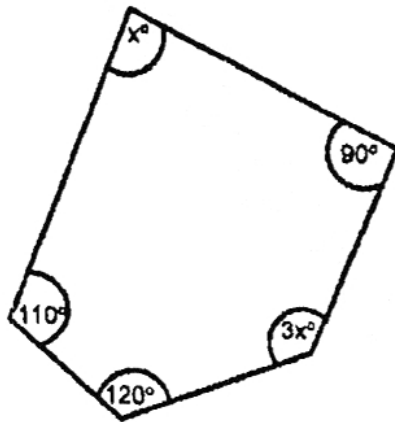
- 25 Mrs Ngwisha was given a discount of 15% on a Chitenge material costing K6 800. Calculate the amount she paid for it.
- 26 Mrs Nkongole borrowed K12 000 000 from the bank at the rate of 3% per annum for 3 years simple interest. How much did she pay back after 3 years?
- 27 Express $\frac{a-1}{3} - \frac{a+3}{9}$ as a single fraction in its simplest form.

- 28 A mapping from A to B is such that $x \rightarrow x + 2$, as shown in the arrow diagram below.



Find the image of

- (a) 5
- (b) 8
- 29 The diagram below is an irregular pentagon whose interior angles are 90° , 110° , 120° , x° and $3x^\circ$ as shown. Calculate the value of x .



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- 30 The diagrams below show two shapes: a cylinder of radius 8 cm and height 14 cm, and a cuboid of length 22 cm, width 8 cm and height h cm. Given that the two shapes have equal volumes, find the height of the cuboid. (Take it $=\frac{22}{7}$)

