P L E

PRIMARY LEAVING EXAMINATION

Basic Mathematics

Education – 1987

SECTION A

1. Divide $9.3 \div 0.3$.

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2. Change 1101_{two} to base ten.

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3. Simplify $\frac{1}{3}+\frac{2}{9}-\frac{1}{6}$.

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4. Subtract 1223_{four} from 3221_{four} giving the answer in base four.

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5. Express as a decimal $\frac{3}{5}$

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6. Express 400 grams as a percentage of 10 kilograms.

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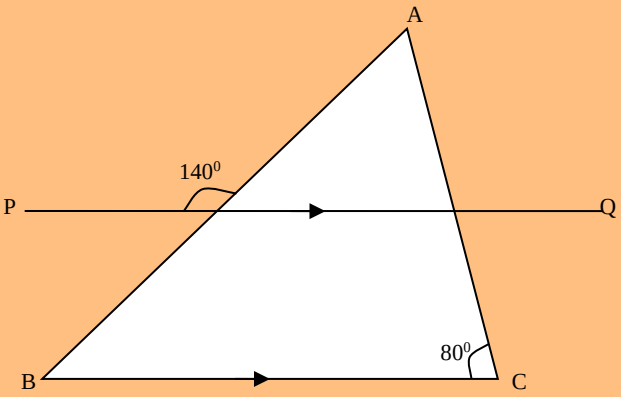
7. In the diagram below ABC is a triangle. BC is parallel to PQ. Angle POA = 140^0 and angle BCA = 80^0



What is the size of angle BAC?

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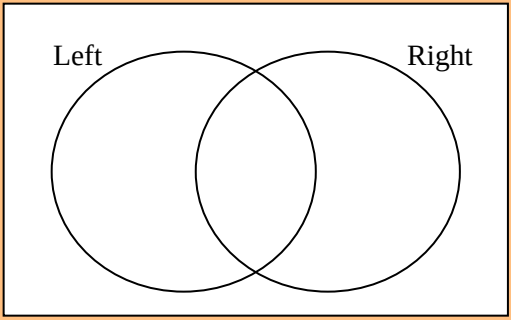
8. In a football team of 11 players, 1 player users both legs well, 7 players use the right leg well and the rest use left leg well. With the help of the Venn diagram below, find how many payers use the left leg well.



9. If the mean of 5, 7, 8, 9, 11, a, a + 1 and a + 4 is 15, find the value of a?

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10. Solve $5 – 2(x + 1) = x$

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11. In a class of 60 pupils, 12 are girls and the rest are boys. Express the number of boys as a percent the whole class.

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12. What is the total surface area of the shaded figure given below?

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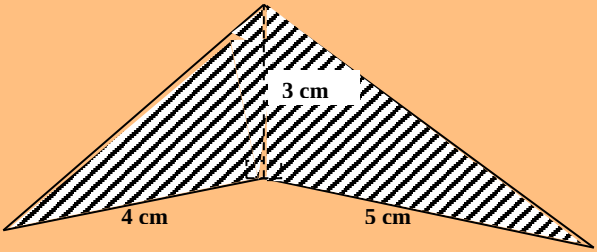

13. A boy bought 2 dozens exercise books of 48 pages each at Sh. 250 per book and 3 dozen exercises books of 90 pages each at Sh. 500 per book. Find the total cost of the exercise books.

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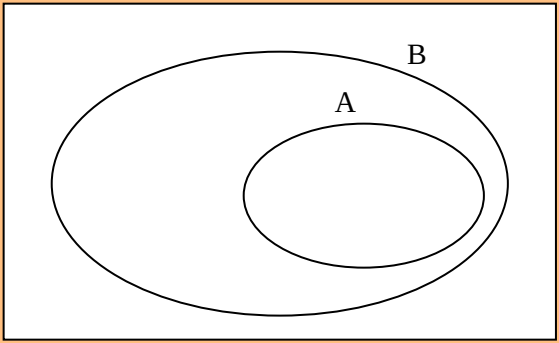
14. In the diagram below, what is the relationship between set A and set B?



15. Apio is now 4 years old. Her mother is 23 years old. How old will the mother be when Apio is 13?

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16. A farmer sold his bull at sh. 250,000 and got a profit of 30%. How much did he buy the bull for?

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17. The cost of one metre of Nytil material is sh. 9,000 and of Nylon material is sh. 33,000. What is the total cost of $3\frac{1}{2}$ meters of Nytil material and $4\frac{1}{2}$ meters of Nylon materials?

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18. At the beginning of last year's marking excerise

there were 1,200 examiners. At the end of the exam there were only 800 examiners. What was the percentage loss of examiners?

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19. The perimeter of a regular hexagon is 69cm. Find the length of one side.

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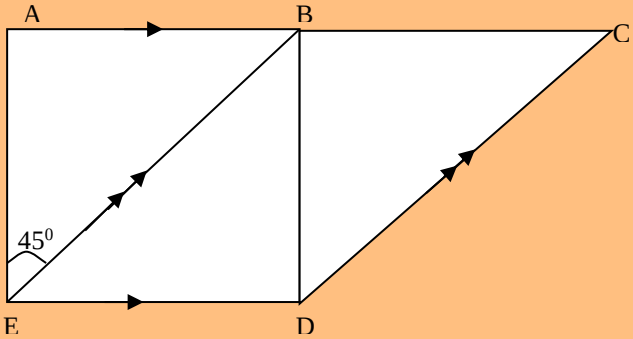
20. In the diagram below ABDE is a square. BCDE is a rhombus and angle AEB is 45^0



What is the size of angle EDC?

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21. Write down the next number in the sequence:
45, 36, 28, 21, …..

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22. If $2t - 3 = 1$ (finite 6) Find the value of t.

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23. The diagram below shows a sport's field of length 100 meters with semi-circular ends of diameter 49. What is the perimeter of the field?

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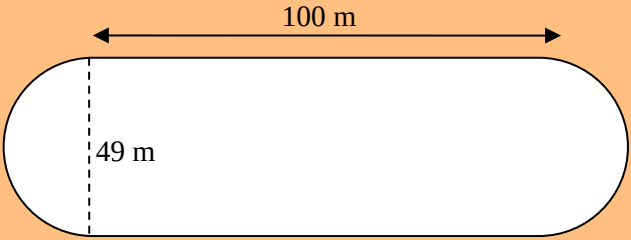
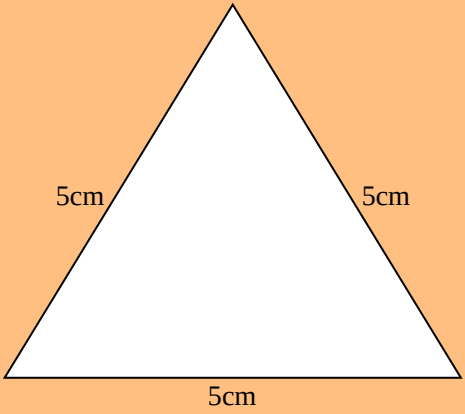


24. With the help of he sketch provided below, construct an equilateral triangle of sides 5cm. Using a and a pair of compasses only.



25. If the chance that Tom will pass his examination is $\frac{3}{7}$, what is the chance that he will fail?

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26. Solve $\frac{1}{5}(x-3)=1$

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27. A plane left Moscow at 20.00 hours and arrived at Entebbe at 4:00 pm. How long did the flight take?

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28. Mary deposited sh. 40,000 with Post Office Savings Bank which offers an interested of 12% per year. How much money will Mary have in the bank after months?

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29. When Okello drives his car at 100 kilometer per hour. It takes him 30 minutes from Kampala to Jinja. How long will he take if he drives at 120 kilometers per hour?

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30. In the graph below plot the following points: A(2, -1); C(3, 3); and D(-1, -1). In A to B and C to D. What are the coordinates of the meeting point?

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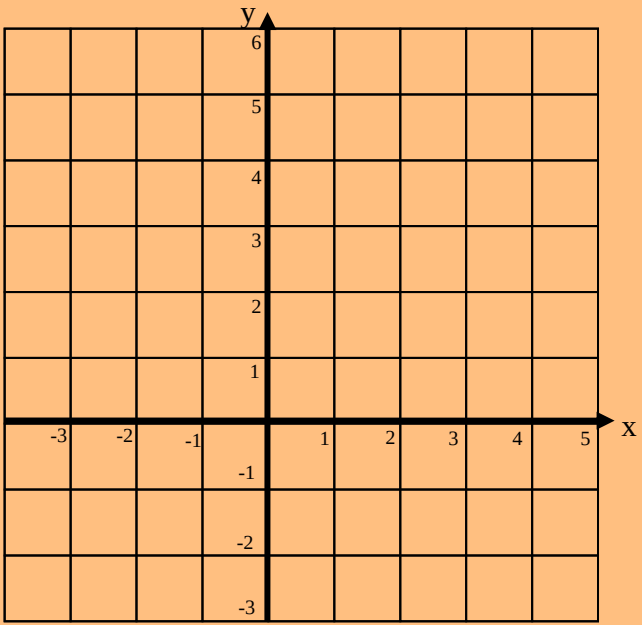

SECTION B

31. (a) Simplify $1\frac{4}{5}+(\frac{1}{3}-\frac{4}{5})$.

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(b) What is the square root of $12\frac{1}{4}$?

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32. (a) What is t he value of x in the diagram below?

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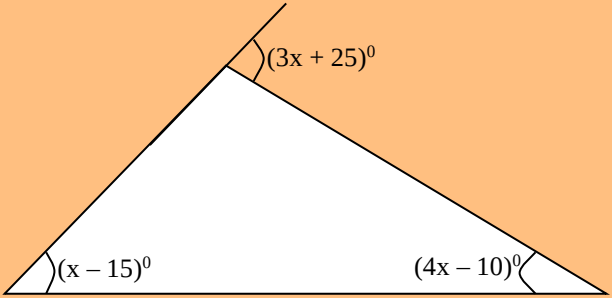
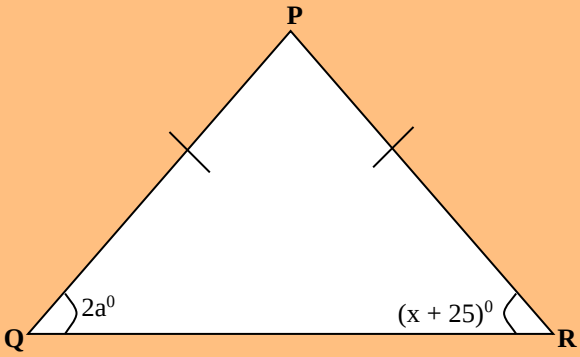


(b) In the diagram below, PQR is an isosceles triangle. Angle PQR = $2a^0$ and angle PRQ = $(x + 25)^0$. Find the size of angle QPR.



33.Given that N = {All prime numbers between 10 and 30}
M = {All old numbers between 10 and 30}
(a) List as sets members of,
(i) N
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(ii) M
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(b) List as a set the members of $N \cap M$.
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(c) Find $n(N \cup M)$.

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34. Find the value of ;

(a) $\frac{4}{5} = \frac{(b-3)}{5}$, given that b = -3.

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(b) $\frac{2m-3n}{2n-1}$ given that m = 4 and n = -2

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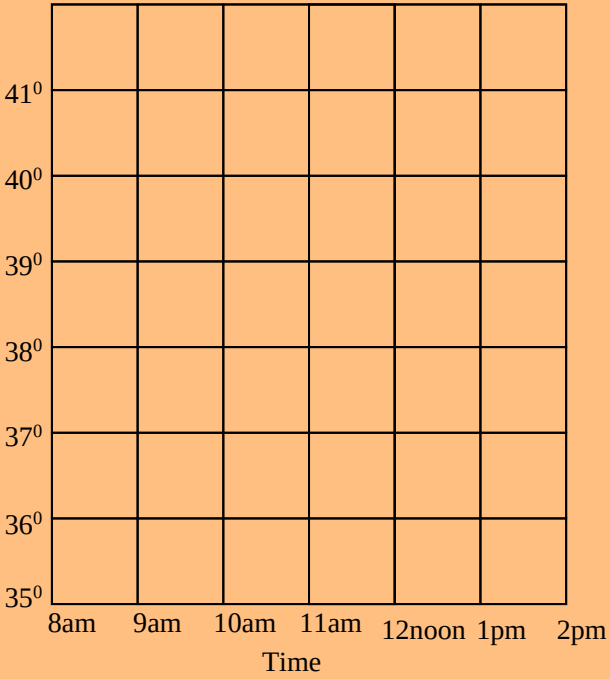
35. The following table gives the temperature in degrees Celcius of a patient takes at hourly intervals from 8:00 am to 2:00 pm.

Time	8:00	9:00	10:00	11:00	12:00	1:00	2:00
Temp. in ^{0}C	39^0C	40^0C	38^0C	36^0C	36^0C	39.5^0C	38^0C

(a) On the graph below, plot the points and join them using doted lines.



(b) What was the average temperature of the patient?

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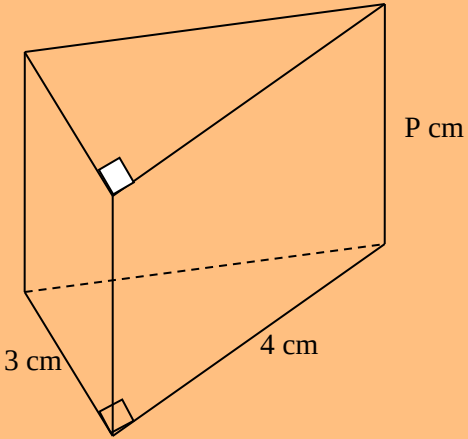
36. In a town M, 35% of the population are Baganda, 20% are Bakiga and the rest are Luo.

Draw a pie chart chart to show this information.

37. The diagram below shows a triangular prism.



Find,

(a) The value of P if the prism is 42 cm^3

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(b) The total surface area of the prism.

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38. Tim left town R and moved westwards to town K, a distance of 20 kilometers. He then moved northwards from town K to town N a distance of 30 kilometers.

(a) Draw a sketch diagram to show Tim's route. (Indicate the northern direction)

(b) Using the scale drawing of 1cm to 5 kilometers, draw an accurate diagram showing Tim's route.

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(c) From your accurate diagram, find the shortest distance between town R and town N in kilometers.

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39. Asiimwe had sh. 100,000. she bought the following:

2kg of meat at sh. 12,000 per kilogram

500 g of bread at sh. 7,000 per kilogram

2 litres of milk at sh. 1,800 per litre
1 bar of soap at sh. 8,500
1 bag of charcoal at sh. 27,000
Plus sh. 1,500 for carrying the items to her home.
(a) Copy and complete Asiimwe's cash statement given below.

Cash available at the beginning sh. 100,000		
Items bought	**Rate (shs)**	**Total value(shs)**
(i) 2kg of meat	12,000 per kg	24,0000
(ii) 500 g of bread	7,000 per kg	…..
(iii) 2 litres of milk	1,800 per litre	….
(iv) 1 bar of soap	……	….
(v) 1 bag of charcoal	……	….
(vi) Plus carrying		1,500
	Total expenses	

40. Using a pair of compasses and a ruler only, construct a triangle ABC with the base AB = 7cm, angle C = 30^0 and angle ABC = 90^0

(b) Use the diagram above to give the measurements of
(i) AC
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(ii) BC
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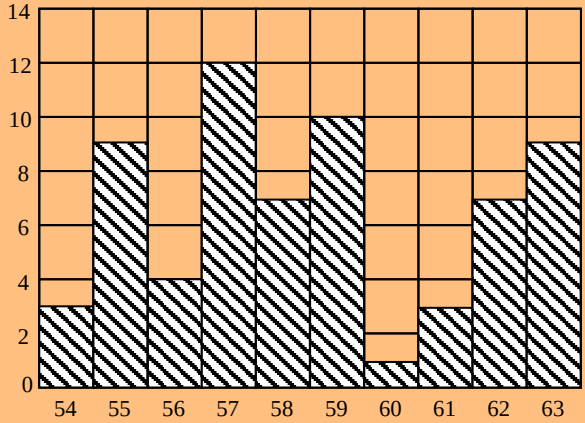
41. The bar graph below shows the weight of members in a sport's club. Use it to answer the questions that follow.



(i) How many members weight 59 kilograms?

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(ii) How many members weight less than or equal to 56 kilograms?

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(iii) What is the total number of members in this club?

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(iv) What is the mode (modal weight) of the members?

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(v) If a member of this club is chosen at random to be the chairman, what is the probability of choosing one who weights 59 kilogram?

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42. $\frac{2x+5}{6} = \frac{1+x}{2}$

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