

MATHEMATICS

NAME: _____

Signature: _____

Stream _____

Date _____

EXAMINER'S USE ONLY

| | |
|--------------|--|
| A | |
| B | |
| TOTAL | |

Read the following instructions carefully

- 1.** The paper is made up of section A and B.
- 2.** Section A has 30 questions carrying 30 marks and section B has 12 questions carrying 70 marks.
- 3.** Answer ALL questions. All answers to both section A and B must be written in the spaces provided.
- 4.** All answers must be written in blue ink.
- 5.** Any handwriting that cannot easily be read will lead to loss of marks.
- 6.** Unnecessary alteration of work may lead to loss of marks.
- 7.** Show all the necessary side work in pencil.

| PARENT'S COMMENT | SIGNATURE |
|------------------|-----------|
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SECTION A:

1. Multiply:
$$\begin{array}{r} 102 \\ \times 3 \\ \hline \\ \hline \end{array}$$

2. Find the sum of 8.64 and 11.36.

3. Subtract:
$$\begin{array}{r} 10010_{\text{two}} \\ - 1101_{\text{two}} \\ \hline \\ \hline \end{array}$$

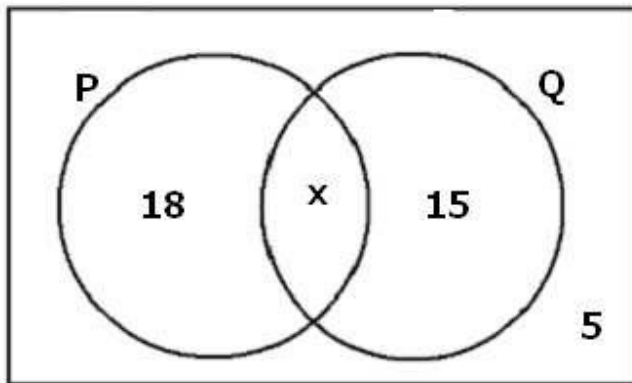
4. Round off 4.96 to the nearest whole number.

5. Write down the next number in the following sequence:
3, 9, 14, 18, 21, _____

6. Simplify: $-8 - -6$.

7. Study the Venn diagram below and find the value of x .

$n(\text{Universal Set}) = 108$

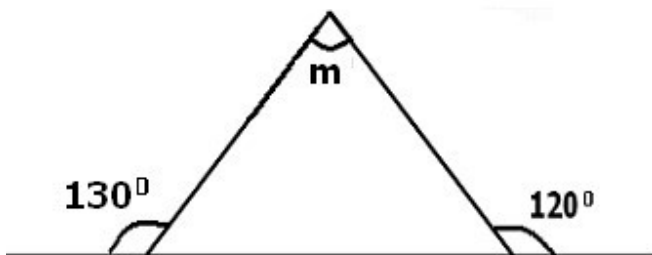


8. Express 45 minutes as a fraction of one hour.

9. Simplify $(4x - 2) - (2x - 3)$.

10. If $a = 4$ and $b = \frac{1}{2}$, find the value of $a^2 - ab$.

11. Find the size of angle marked m in the diagram below.



12. In a class of 42 pupils, the ratio of boys to girls in a class 2:1. Find the number of boys in the class.
13. What is the median of 4, 3, 3, 9, 6, 2, 7, 8?
14. What is 5% of 300?
15. If $x - 4 = 3$ (Finite 5), find the value of x .
16. At what rate percent per annum will sh.40,000 yield sh.16,000 simple interest in 8 years?
17. In a basket, there are 15 good eggs and 5 rotten eggs. If one egg is picked at random, what is the probability of picking a good egg?

18. Solve the equation: $n + \frac{n}{2} = 9$.

19. The radius of a circle is 7cm. Find its area. (Take π as $\frac{22}{7}$)

20. Write in figures: Two hundred one thousand nine.

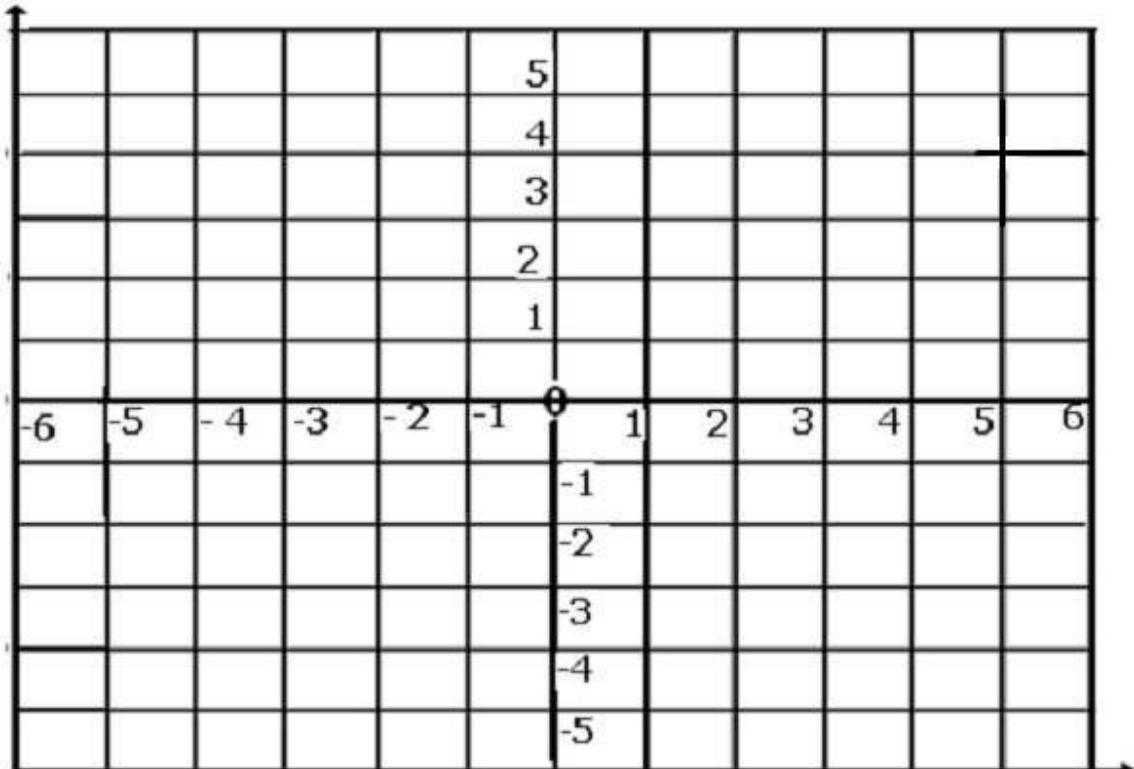
Section B

21(a) Solve the inequality: $3x - 2 \leq x$.

(b) A boy is 12 years old and his father is 38 years old. After how many years will the father be twice as old as his son?

22(a) On the grid given below:

(i) Plot the points P (0,5), Q(-2,0), R(0,-3) and S(2,0).



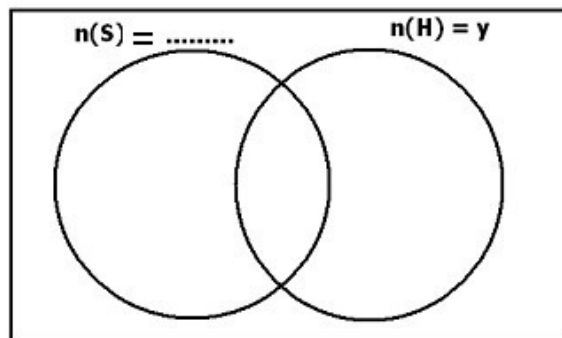
(ii) Join P to Q, Q to R, R to S and S to P.

(b) Name the polygon formed.

23. Of the 32 candidates in Primary Seven, 17 registered for swimming (S), y registered for Hockey (H), 11 registered for both swimming and Hockey while 7 candidates did not register for any of the two games.

(a) Represent the above information on the Venn diagram below.

$n(\text{U}) = 32$



(b) Find the value of y .

(c) If a candidate is picked at random from that class, what is the probability of picking a pupil who likes hockey only?

24. In a school, 160 pupils took an examination. $\frac{1}{4}$ of the pupils were girls.

(a) How many girls took the examination?

(b) If 5% of the girls failed and 30% of the boys failed, how many pupils altogether passed the examination?

25(a) Using a ruler, a pencil and a pair of compasses only, construct a triangle PQR in which angle $PQR = 120^\circ$, $QR = 6\text{cm}$ and $PQ = 8\text{cm}$.

(b) (i) Measure the length of PR.

(ii) Measure angle QRP.

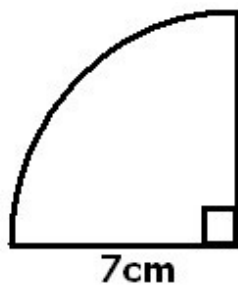
26. $\frac{3}{7}$ of a school library are Mathematics books, $\frac{1}{4}$ of the remainder are English books and the rest 420 books are on other subjects. How many books are there in the library?

27(a) The radius of a car wheel is 28cm. What distance in kilometres will it travel in 1000 revolutions? (Take $\pi = \frac{22}{7}$)

7

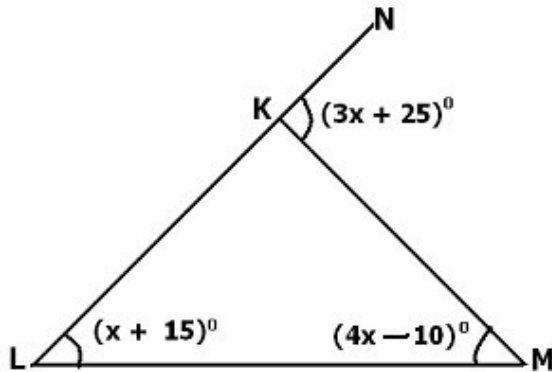
(b) Calculate the perimeter of the figure below. (Take $\pi = \frac{22}{7}$)

7



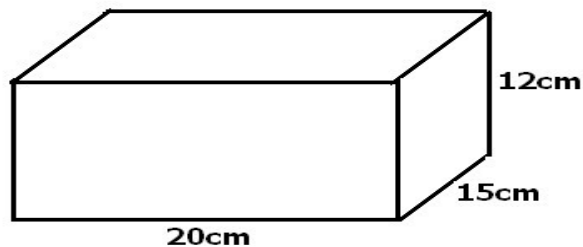
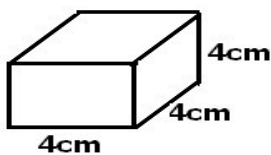
28. Given that the exchange rate of United States dollars to Uganda shillings is US \$1 = Ug. sh. 2350 and that the exchange rate of Kenya shillings to Uganda shillings is Ksh. 1 = Ug. sh. 25. How much money in Uganda shillings does Adong have in total if she has US \$ 800 and Ksh. 3500?

29. In the diagram below, KLM is a triangle. Angle KLM = $(x + 15)^\circ$, angle LMK = $(4x - 10)^\circ$ and angle MKN = $(3x + 25)^\circ$.



- (a) Calculate the value of x .
- (b) Find the size of angle LKM.

30. Kapere packs chalk in cubes measuring 4cm by 4cm by 4cm. The cubes are then packed in a box measuring 20cm by 15cm by 12cm as shown in the diagram below.



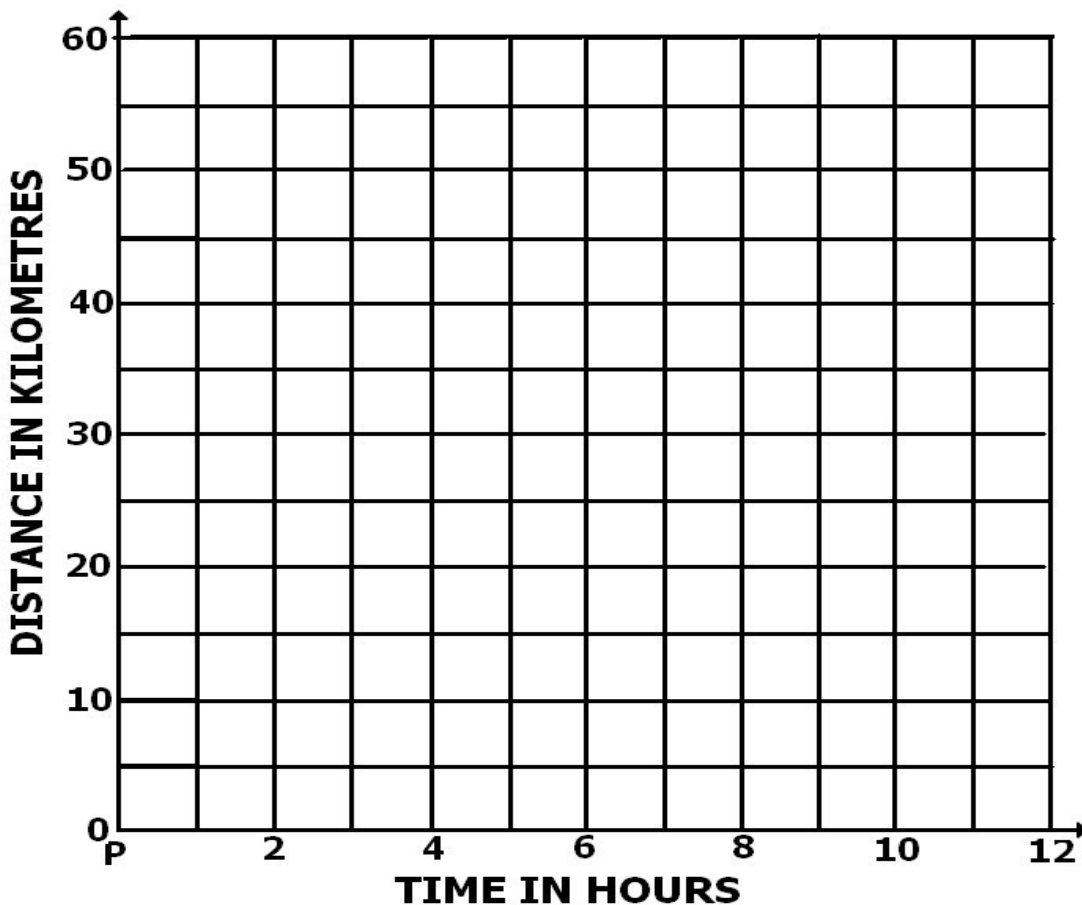
- (a) How many cubes of chalk can be packed in the box?

(b) Find the space that will remain after the cubes have been packed in the box.

31. A cyclist travelled from town P to town S as follows:

- (i) For one hour, he rode from town P to town Q, a distance of 10 kilometres and then rested for one hour.
- (ii) From town Q, he continued riding for another one hour to town R, a distance of 20 kilometres and then rested for two hours.
- (iii) After resting at R, he then rode for three hours to town S a distance of 20 kilometres.

(a) Draw a graph in the grid below using straight lines to represent the above journey.



(b) Find the average speed of the cyclist for the whole journey.

32. Mummy went to the supermarket and bought the following items:

2 $\frac{1}{2}$ kg) of sugar at shs4,000 per kg)

2 kg of meat at shs9, 000 per kg)

1 $\frac{1}{2}$ Kg of tomatoes at shs 2000 per Kg)

How much money did she spend altogether?

(b) If she paid sh.20, 700 for the items, what percentage discount was she given?