UGANDA NATIONAL EXAMINATIONS BOARD

PRIMARY LEAVING EXAMINATION

2022

MATHEMATICS

Time Allowed: 2 hours 30 minutes

Random No.						Personal No.		

Candidate's Name: ....

Candidate's Signature: ....

District ID No. [ ][ ][ ][ ]

Read the following instructions carefully:

1. Do not write your **school** or **district name** anywhere on this paper.

2. This paper has **two** sections: **A** and **B**. Section **A** has **20** questions and section **B** has **12** questions. The paper has **15 printed pages**.

3. Answer **all** questions. **All** the working for both sections **A** and **B** must be shown in the spaces provided.

4. **All** working **must** be done using a **blue** or **black** ball point pen or ink. Any work done in pencil other than on graphs and diagrams will **not** be marked.

5. **No calculators** are allowed in the examination room.

6. Unnecessary **changes** in your work and handwriting that cannot be read easily may lead to **loss of marks.**

7. Do not fill anything in the table indicated: **"FOR EXAMINERS' USE ONLY"** and boxes inside the question paper.

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SECTION A: 40 MARKS

*Answer **all** the questions in this section.*

*Questions **1** to **20** carry two marks each.*

1. Work out: $\dfrac{3}{5} + \dfrac{1}{5}$

2. Write 546 in Roman numerals.

3. Work out:
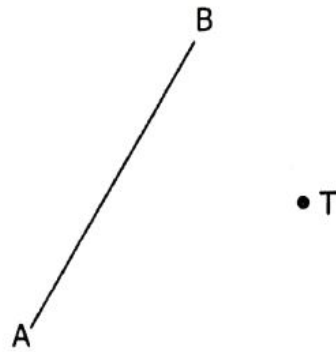 $$\begin{array}{r} 1\,2\,7 \\ \times\ \ 3 \\ \hline \end{array}$$

4. Given that PᴜQ = {1, 2, 3, 4, 5, 6, 7, 8}, P∩Q = {1, 4, 7} and

    P′ = {5, 6, 8}, list the elements of set P.

5. Find the next number in the sequence:
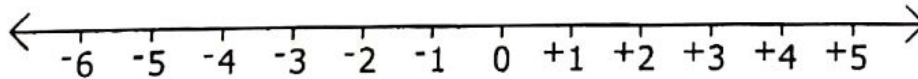
    1,   3,   7,   13,   21, ...

6. Using a ruler and a pair of compasses only, construct a line through point T parallel to line AB.

7. Write the number whose standard form is 7.43×10^2.

8. Represent the number operation $^-5 + {}^+7$ on the number line below.

9. Solve: $2a - 6 = 10$

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10. A packet of biscuits weighs 200 grammes. Calculate the total weight in kilogrammes of 30 packets of biscuits.

11. The drawings below show cards with numbers written on them.

| 4 | 5 | 6 | 7 | 8 | 9 |

The cards were then put in a bag. Find the probability that a card picked at random from the bag has a composite number.

12. Work out: $1\,0\,0\,1_{two}$
$-\,1\,1\,1_{two}$
_____

13. A poultry farmer sells 30 eggs at sh 12,000. Find the cost of 25 eggs.

14. Round off 2498 to the nearest hundreds.

4

15. The weight of a teacher is 72 kg. The average weight of the teacher and three pupils is 50 kg. Calculate the total weight of the pupils.
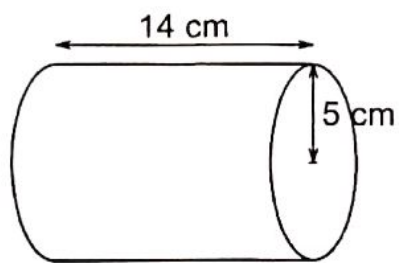
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16. Town M is South East of town V. Find the bearing of town V from town M.

17. A businesswoman borrowed sh 100,000 from a savings group which charged her an interest rate of 3% per month. Calculate the interest she paid after a period of six months.

18. Peter walked a distance of 2 km in 20 minutes. Find his speed in kilometers per hour.

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19. Given that $m = 8$ and $n = 6$, find the value of $\sqrt{mn+1}$.

21.

20. Calculate the volume of the cylinder below. (Use $\pi = \dfrac{22}{7}$)

14 cm

5 cm

*Answer **all** the questions in this section.*

Marks for each question are indicated in brackets.

21. In a village, 3 farmers grow both rice (R) and sunflower (S). 24 farmers grow rice and y farmers grow sunflower only. 2y + 9 farmers grow none of the two crops.

    (a) Use the given information to complete the Venn diagram below.
    (02 marks)
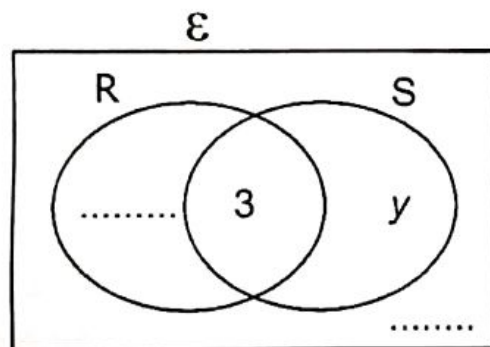
    (b) Given that the number of farmers who grow rice only is equal to the number of farmers who grow none of the two crops, find the value of y. *(02 marks)*

    (c) How many farmers grow sunflower? *(01 mark)*

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22. A trader bought 500 mangoes at sh 250 each. The trader then sold 100 of the mangoes at sh 350 each and the rest at sh 300 each. Calculate the profit the trader made. *(05 marks)*

23. Work out: $\dfrac{0.75 + 0.25}{0.65 - 0.4}$ *(04 marks)*

24. A motorist left his home at 7:40 a.m. and travelled to town for 3 hours at an average speed of 64 km/h. He stayed in town for 30 minutes and then travelled back home.

(a) Calculate the distance from the motorist's home to the town. *(02 marks)*

(b)   At what time did the motorist leave the town?   (01 mark)

(c)   Calculate the speed at which the motorist travelled back if he
       reached home at 3:10 p.m.   (03 marks)

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25.   The sum of three consecutive counting numbers is 78. Find the
   largest number.   (04 marks)

26. (a) Using a ruler and a pair of compasses only, construct triangle ABC in which line AB = 7 cm, AC = 6 cm and angle CAB = 45°.

(04 marks)

(b) Measure angle ACB. (01 mark)

27. The figure below represents a photograph enclosed in a photo frame. The length of the photo frame is 30 cm and the width 22 cm. The area covered by the photograph is shaded. Study the figure and use it to answer the questions that follow.
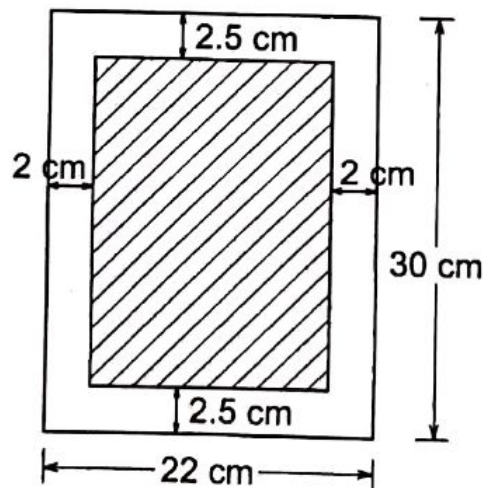

(a) Find the length of the photograph. (02 marks)

(b)   Calculate the area of the frame **not** covered by the photograph.

(04 marks)

28.   A Mathematical set costs sh 2,000 more than an exercise book. The cost of two exercise books is the same as $\frac{2}{5}$ of the cost of a mathematical set. Find the cost of an exercise book.   *(04 marks)*

29. In the figure below, line XY = XZ and line TS is parallel to line XY.
Angle TSZ = 45° and angle YXZ = 70°. Study the figure and use it to
answer the questions that follow.
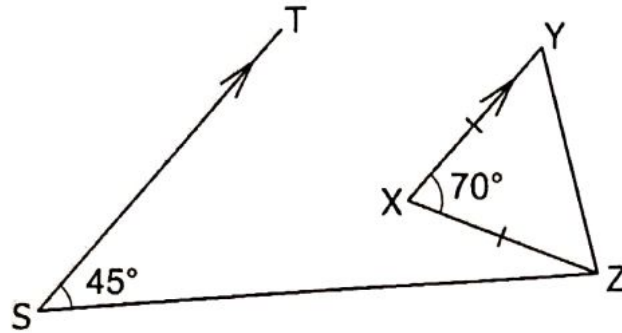
Find the size of angle;

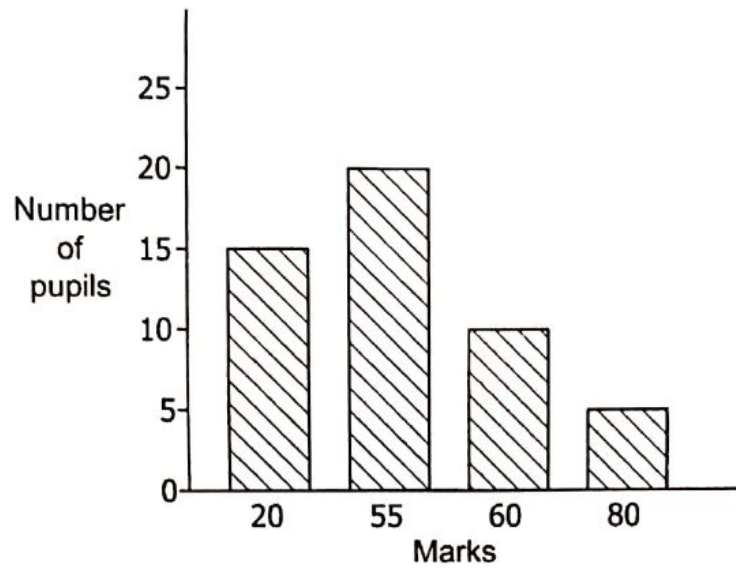(a) XYZ   (02 marks)

(b) SZX   (03 marks)

30. The bar graph below shows marks scored by pupils in a test. Study the graph and use it to answer the questions that follow.

(a) Find the number of pupils who did the test. *(02 marks)*

(b) Calculate the mean mark of the pupils. *(03 marks)*

31. A company supplied text books to three schools; F, G and H in the ratio 4:6:5 respectively. School F received 72 books less than school G.

(a) Find the number of text books supplied by the company.

(03 marks)

(b) Calculate the number of books school H got. (02 marks)

32. The diagram below shows a tank full of water. The water leaks at a rate of 1.5 litres per hour. Study the diagram and use it to answer the questions that follow.
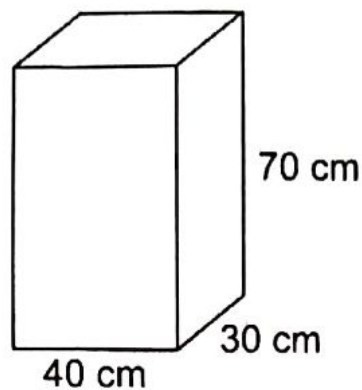
(a) Find the capacity of the tank in litres. *(02 marks)*

(b) Calculate;

    (i) the amount of water in litres that will leak out of the tank in 12 hours. *(01 mark)*

    (ii) the height of the water that remains in the tank after 12 hours. *(03 marks)*

END