

# SPECIAL EXAM TWO 2022

## MATHEMATICS

*Time Allowed: 2 hours 30 minutes*

Random No.						Personal No.		

**Candidate's name:** .....

**Candidate's signature:** .....

**District:** ..... **Stream:** .....

**Read the following instructions carefully**

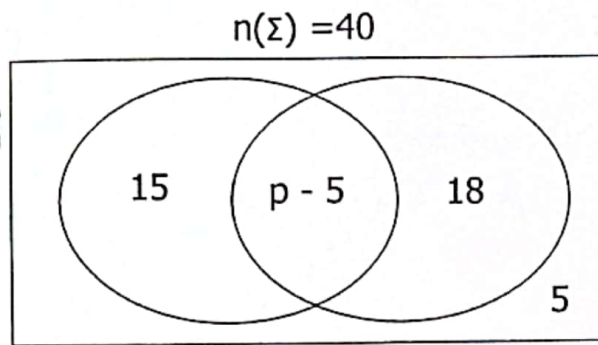
1. This paper has two Sections: A and B.
2. Section A has 20 answer questions (40 marks)
3. Section B has 12 questions (60 marks)
4. Answer ALL questions. Answers to both sections must be written in the spaces provided.
5. All answers must be written using blue ink. Diagrams should be drawn in pencil.
6. Unnecessary alteration of work may lead to loss of marks.
7. Any handwriting that cannot be easily read may lead to loss of marks.
8. Do not fill anything in the box indicated for examiner's use only.

For Examiner's use only	
A	
B	
TOTAL	

**SECTION A: (40 MARKS)**

1. Work out:  $24 \div 6$
  
  
  
  
  
  
  
  
  
  
2. Find the next number in the sequence.  
  
2, 5, 8, 10, 12, 15, 18, \_\_\_\_\_
  
  
  
  
  
  
  
  
  
  
3. Write the place value of 2 in the number 43210<sub>five</sub>
  
  
  
  
  
  
  
  
  
  
4. At what speed in kilometres per hour should Solomon run around a football field if he is to cover a distance of 60km in 90 minutes?

5. Study the Venn diagram below and find the value of  $p$ .



6. Using a pair of compasses, a ruler and a pencil only, construct an angle of  $105^\circ$ .

7. Given that  $r = -4$ ,  $n = -3$ . Work out the value of  $3r^2 - 5nr^2$

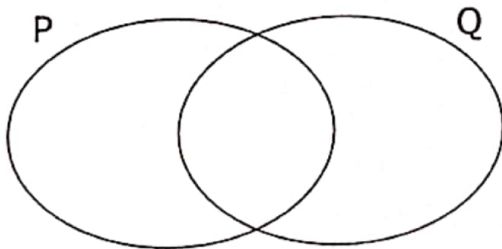
8. How many tins of 500grams would one get from 4.5 kilograms?

9. Work out the median of 5, 0, 2, -4 and 1
10. Work out:  $1.99 \times 10^3$
11. Find the least number of mangoes which can be shared by either 12 boys or 15 girls leaving a remainder of 5.
12. How much simple interest on sh.24,000 at a rate of  $4\frac{1}{2}\%$  per month would James pay to Centenary bank after 10 months?

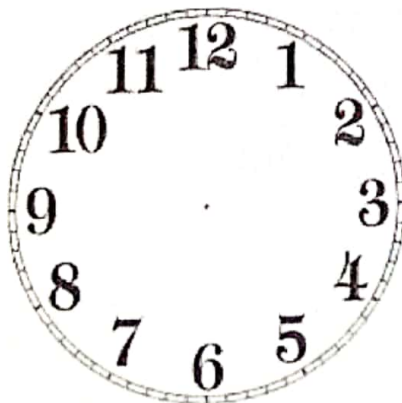
13. Work out the difference between the 6<sup>th</sup> and 4<sup>th</sup> rectangular numbers.

14. 9 men take 72 minutes to slash a school compound, how many minutes are needed for 27 men to slash the same compound working at the same rate?

15. In the diagram below shade  $(P \cup Q)$ .



16. Show fifteen minutes before midnight on the clock face below.



17. Solve the inequality  $2k - 9 > 3 - 4k$

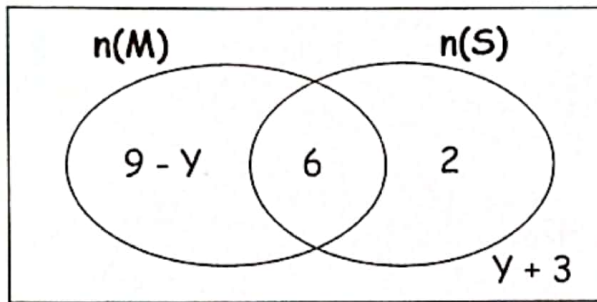
18. The average weight of 4 girls is 56kg, when 2 more girls join them, the average weight becomes 52kg. Find the weight of the two more girls who joined.

19. Work out:  $+4 + -7$

20. Work out:  $20 \div 5 \times 4$

**SECTION B: (60 MARKS)**

21. The Venn diagram below shows the number of pupils who like Soda (S) and others who like Mineral water (M), the rest like neither Sodas nor Mineral water.



- a) If 7 pupils like neither Sodas nor Mineral water, find the number of pupils who do not like Mineral water. **(3 marks)**

- b) How many pupils like Mineral water? **(2 marks)**

22. Namukasa went for shopping and bought the following items.

4kg of rice at sh.3,000 per kg
2kg of posho at sh.11,000
3kg of sugar

- a) How much money would she pay for rice and posho? **(2 marks)**



- b) If Namukasa paid sh.32,000 for all the items, how much money did she pay for a kg of sugar? **(3 marks)**

23. a) Work out:  $133_{\text{five}} \times 42_{\text{five}}$  **(2 marks)**

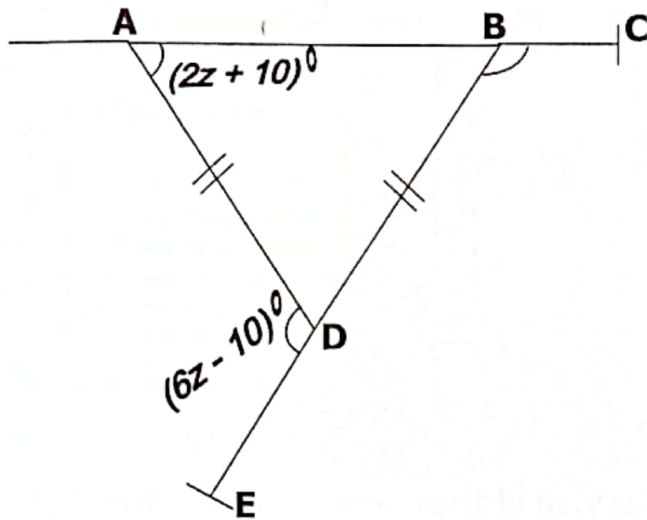
- b) The table below shows addition in base four. Study and carefully complete it. **(3 marks)**

+	1	2	3
1	_____	3	10
2	3	_____	11
3	10	11	_____

24. On a certain day when  $\frac{1}{6}$  of the pupils in the class were absent, 35 pupils were present. How many pupils were present when  $\frac{1}{3}$  of the pupils in the class were absent? **(5 marks)**



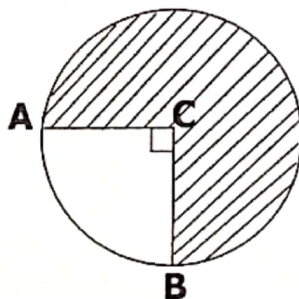
25. a) In the diagram below, find the size of the angle marked **ABD**. (3 marks)



- b) Work out the size of angle **DBC**. (2 marks)

26. Joyce is 12 years old and Juliet is 15 years old. In how many years' time will the ratio of their ages be 6:7? (4 marks)

27. If the length of the small arc **AB** is 22cm and **C** is the centre of the circle.



- a) Find the length of the big arc. (2 marks)

b) Find the perimeter of the shaded part. (Use  $\pi = \frac{22}{7}$ )

**(3 marks)**

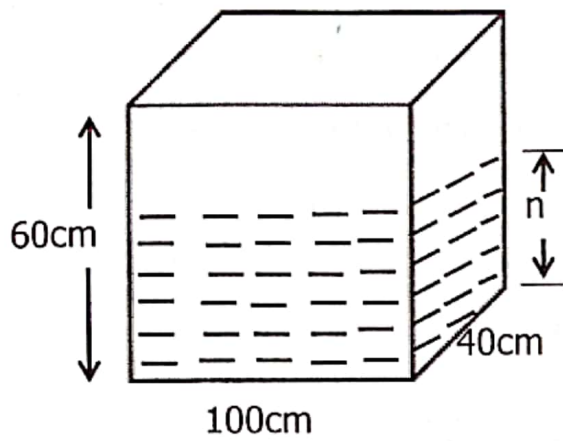
28. Given that  $3x - y = 6$ . Use the equation of the line to complete the table below.

**(6 marks)**

x	2	—	4	5	—	-2
y	—	3	—	—	-3	—

29. Kizito was travelling at an average speed of 45 km/hr for 2 hours. When he realized that he was slow, he increased the speed by 15km/hr for the remaining 120km. Find the average speed for the whole journey. **(5 marks)**

30. Study the diagram below and use it to answer the questions that follow.



- a) If the tank was  $\frac{2}{3}$  full of water, find the value of  $n$ . **(2 marks)**

- b) How much water was in the tank? **(3 marks)**

31. a) Using a pair of compasses, a ruler and a pencil, construct a parallelogram **ABCD** in that **BC** = 7.5cm, angle **ABC** =  $60^\circ$  and line **DC** = 5cm. **(4 marks)**

b) Measure diagonal **BD** .....

**(1 mark)**

32. Ouma sold a shirt to Okello at sh.72,000 and made a loss of 20%. Okello later sold the shirt to Omara at a profit of 35%.

a) Calculate the amount of money Ouma paid for the shirt.

**(3 marks)**

b) For how much did Okello sell the shirt?

**(2 marks)**

\*\*\*\*\* **END** \*\*\*\*\*