

THE SIPRO MOCK II - 2023

MATHEMATICS

Time Allowed: 2 Hours 30 Minutes

Index No.

Random No.						Personal No.		

Candidate's Name: _____

Candidate's signature: _____

School Random No: _____

District ID: _____

READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. This paper has two sections: A and B.
2. Section A has 20 questions (40 Marks).
3. Section B has 12 questions (60 Marks).
4. Attempt all questions in both sections. All answers to both sections A and B must be written in the spaces provided.
5. All answers must be written in blue or black ball point pens or ink. Only diagrams and graph work must be done in pencil.
6. Unnecessary alteration of work will 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 boxes indicated "FOR EXAMINER'S USE ONLY"

For Examiner's Use Only

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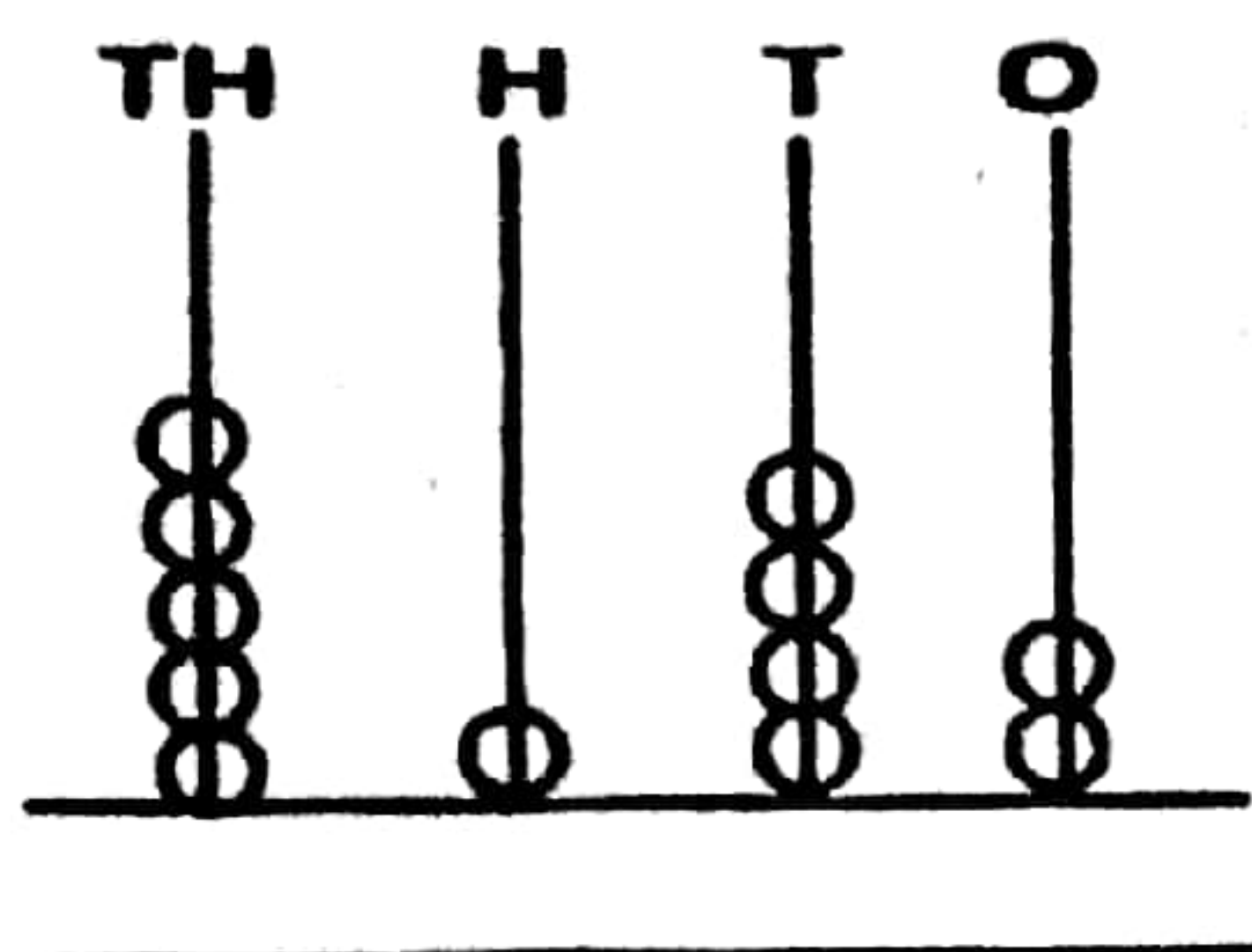
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SECTION: 40 MARKS

Attempt all questions in this section
Questions 1 to 20 carry two marks each

1. Simplify: $8m + 2m$.

2. Expand the number on the abacus below using powers of 10.



3. Work out: $\frac{5}{6} + \frac{1}{3}$

4. Work out: $-4 - -5$.

5. Given that $W = \{c, o, m, p, a\}$ and $M = \{m, o, p, e, l\}$; List all the subsets in $W \cap M$.

6. Write 369,046 in words.

7. In a bag, there are 40 pens. If 6 are red, 19 are blue and the rest are black pens, what is the probability of picking a black pen at a random?

8. Using a ruler and a pair of compasses only, construct an angle of 30° .

9. Given that $n(A) = 20$, $n(B) = 30$ and $n(A \cap B) = 10$;
Find $n(A \cup B)$

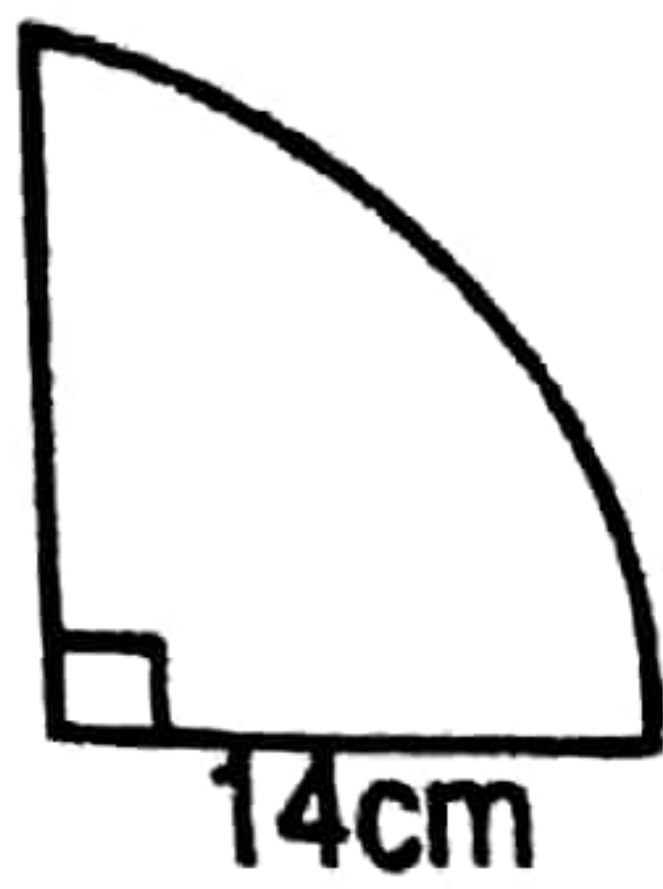
10 Wagaba bought 4 books at sh.28,000 and later sold each book at sh.9,000. Find the profit he made.

11 Given that $a = -2$, $b = 3$ and $c = 4$. Find the value of $b(a^2 + c)$

12. Find the median of 24, 16, 25, 33, 20 and 15.

13. Which lowest number of apples can be shared by 8 or 6 girls leaving 2 as a remainder?

14. Find the distance round the figure below. (Take π as $3\frac{1}{7}$)



15. Ann had 12 pens, she gave 4 of them to her friends. Later, the mother gave her 2 more pens, then Ann shared the pens equally between 2 pupils. How many pens did each pupil get?

16. The bearing of Soroti from Mbale is 045° . Find the bearing of Mbale from Soroti.

17. Express 5400kg to tonnes.

18. Use the clock hands to show a quarter to 5 o'clock.



19. Otim used 15 litres of oil. This was $\frac{1}{3}$ of what he had. How many litres of oil did he have at first?

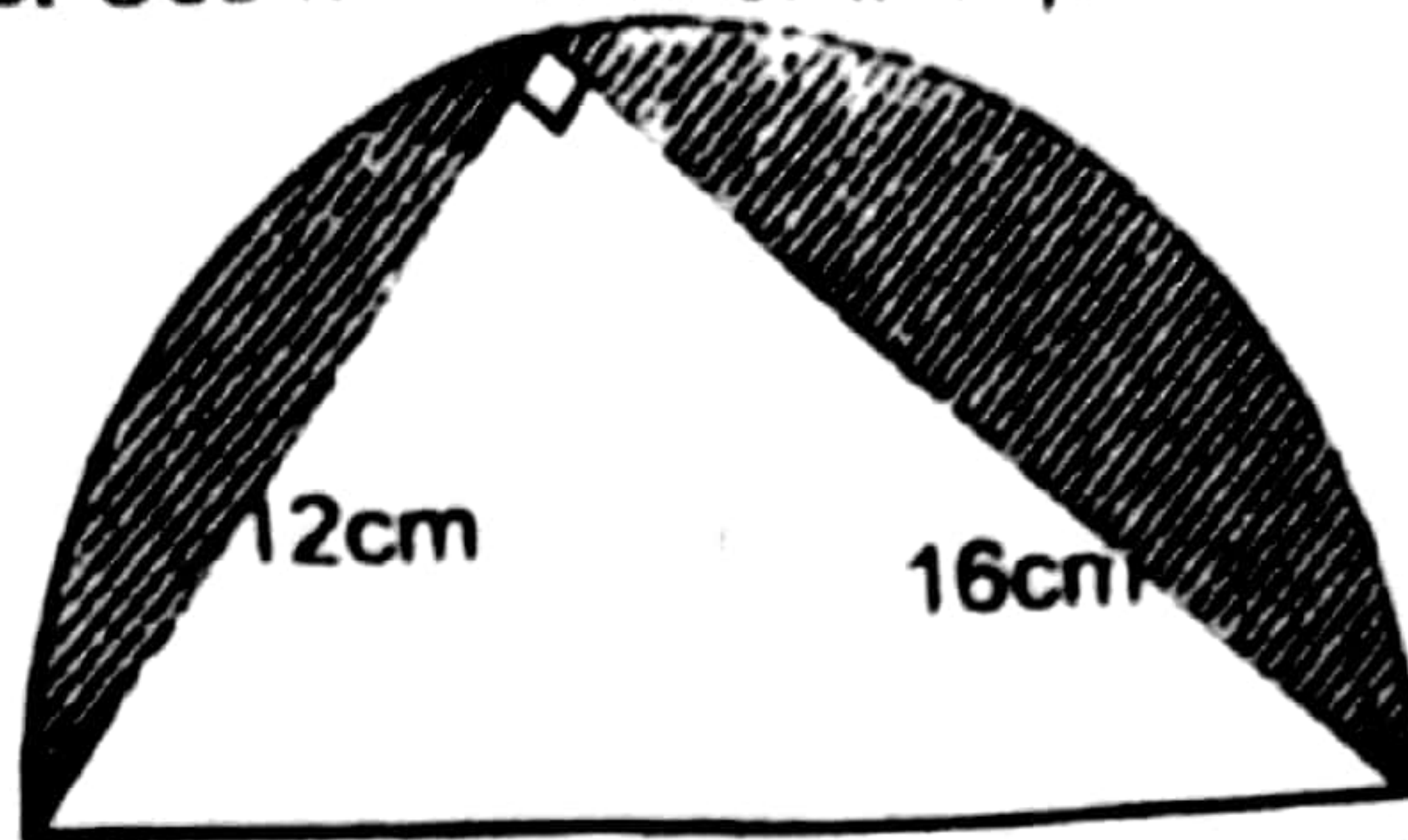
20. Simplify: $\frac{m^4 \times m^6}{m^5}$

SECTION B: 60 MARKS

Attempt all questions in this section.

Marks for each part of the question are indicated in the margin.

- 21 The diagram below is made up of a semi-circle and a right angled triangle. Use it to answer the questions that follow.



- a) Find the length of the diameter of the semi-circle.

(02Marks)

- b) Calculate the circumference of the semi-circle.
(Take π as 3.14)

(02Marks)

- 22.a) Write 523.4 in standard form.

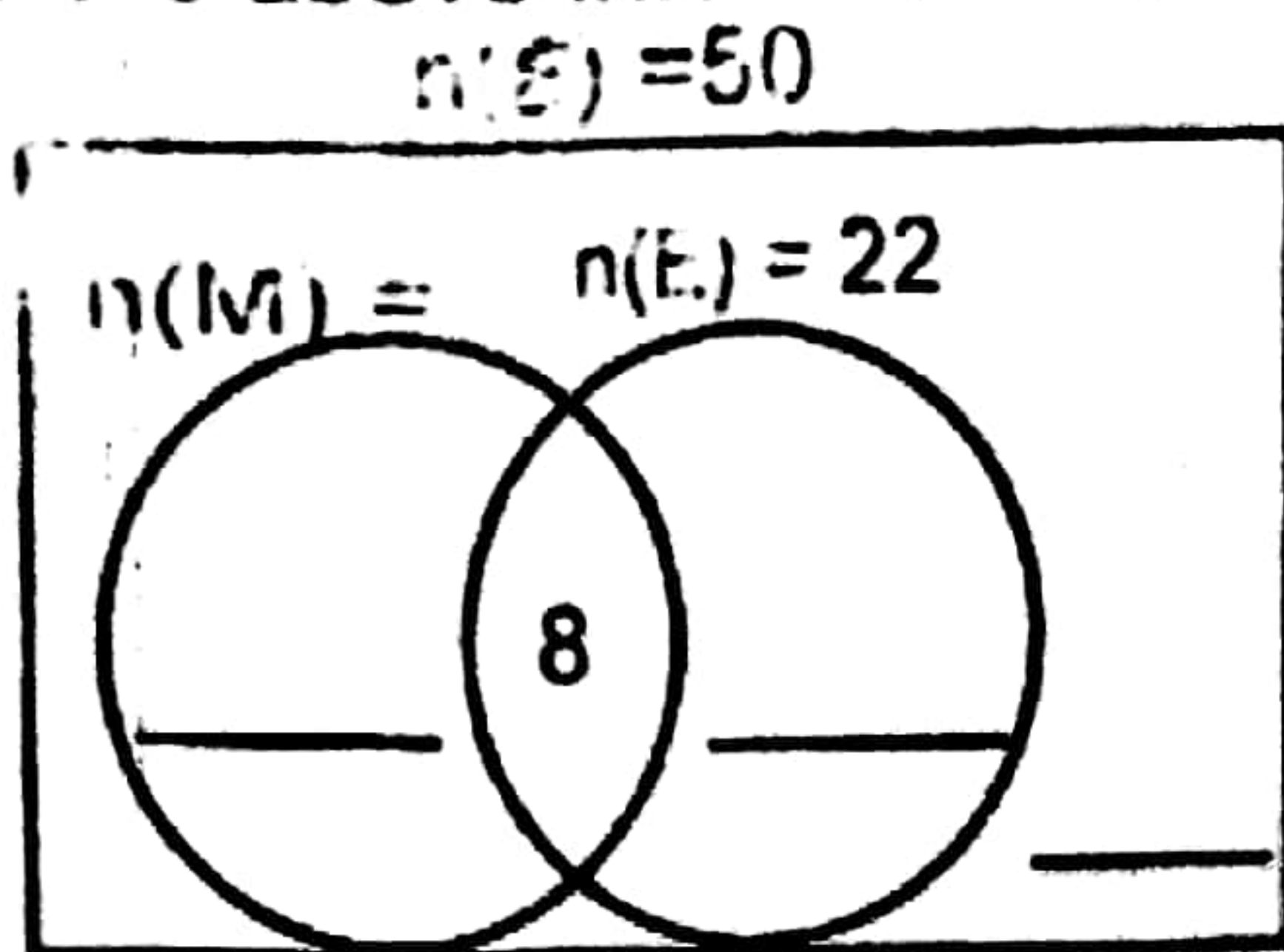
(02Marks)

- b) Solve $2^n \times 8 = 64$.

(02Marks)

In a class of 50 pupils, 8 pupils passed both Maths and English, 22 passed English. $(y + 8)$ pupils passed maths only while $(y - 2)$ passed neither of the two subjects.

a) Use the above information to complete the venn diagram below.

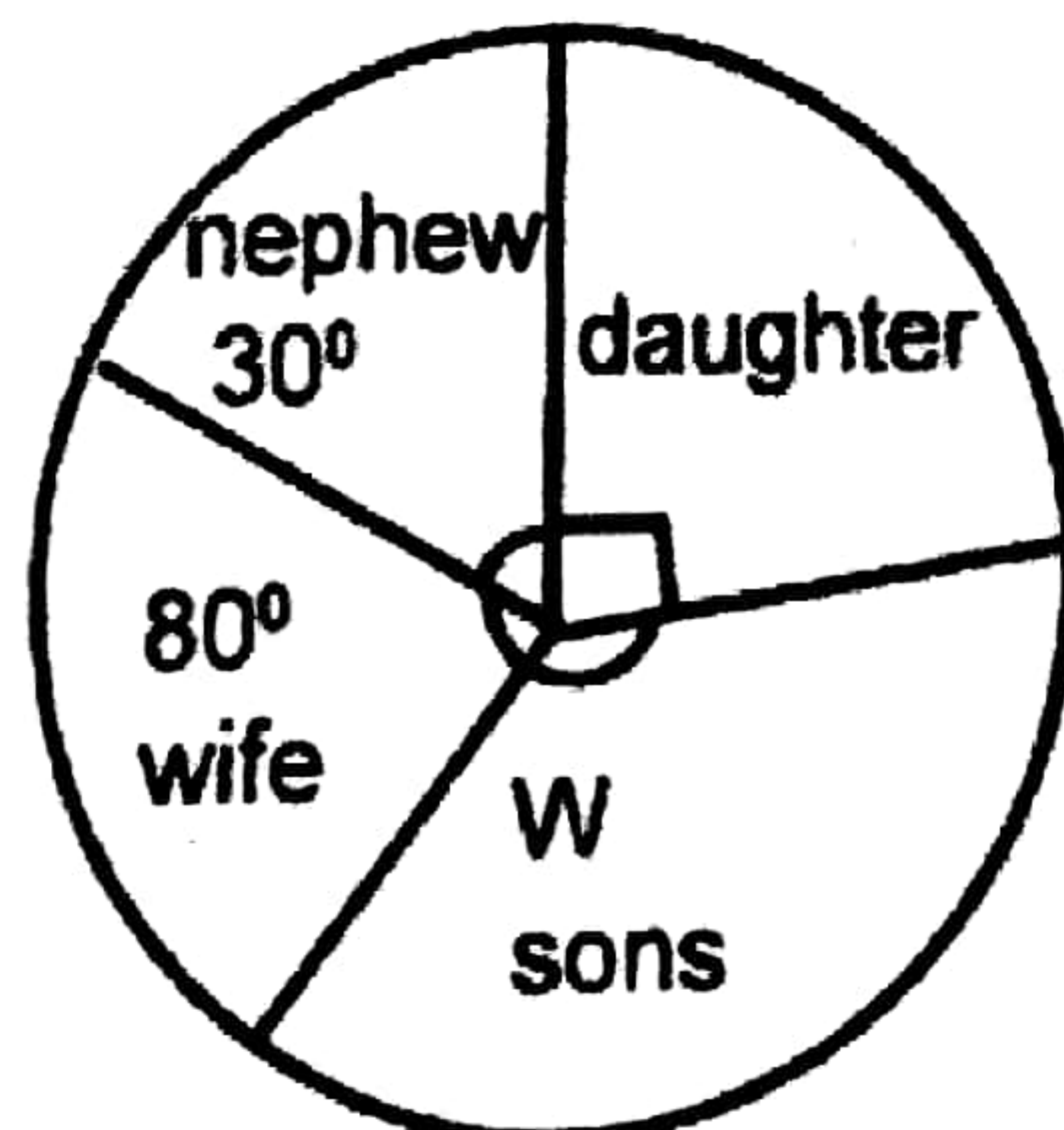


(03 Marks)

b) Find how many pupils passed mathematics.

(03Marks)

24. The circle graph below shows how Kahoti distributed his land. Use it to answer the questions that follow.



a) If he gave 13 acres to his sons; Find the number of acres he had altogether.

(04Marks)

b) Express the number of acres he gave to his wife as $\frac{1}{10}$ of the total.

25. At a certain school, $\frac{5}{8}$ are girls. One day, all boys came to school and $\frac{4}{5}$ of the girls were absent. (02 Marks)

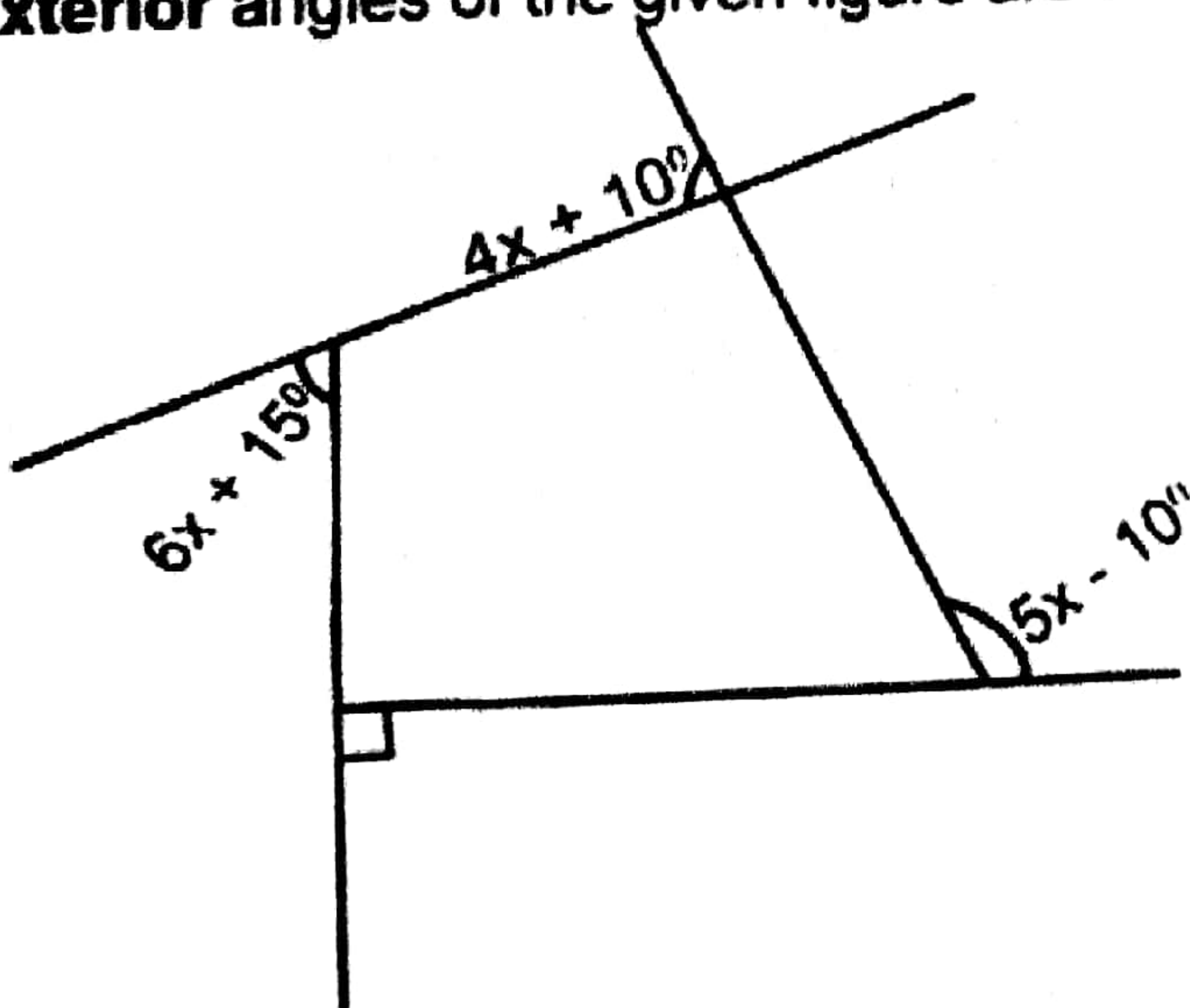
the girls were absent.

a) What fraction of the school was present?

(02 Marks)

b) If 50 girls were present that day, what is the enrolment of the school?

26. The exterior angles of the given figure are 90° , $4x+10^\circ$, $5x-10^\circ$ and $6x+15^\circ$. (02 Marks)



c) Find the value of X.

(03Marks)

d) What is the size of angle BCD?

(02Marks)

27. Mutesi went shopping and bought the following:

2 bars of soap for sh. 13,000

3 kg of sugar for sh. 4500 per kg.

6 apples at sh.2500 for 3 apples.

a) Find the cost of apples.

(02Marks)

b) Work out the total cost of all the items.

(02Marks)

c) If Mutesi had sh.50,000, What was her change?

(01Mark)

28. a) Moses is 3 times as heavy as Jokas. Jokas is $\frac{1}{2}$ of Jorem's weight. If their total weight is 180kg. What is the weight of Jokas?

(03Marks)

b) Solve and write the solution set for the inequality $3p < 12$.

(03Marks)

29. a) Using a pair of compasses, a ruler and a pencil only, construct a quadrilateral ABCD where $AB=7\text{cm}$, $AD = 3\text{cm}$, angle $DAB = 90^\circ$ and angle $ABC = 45^\circ$.

(05Marks)

30. a) Work out: $\frac{2.2 \times 0.45}{0.5 \times 0.6}$

(02marks)