



Rosyth School  
Preliminary Examination 2007  
Mathematics  
Primary 6

Total 

Name: \_\_\_\_\_

Class: Pr 6-\_\_\_\_\_ Register No. \_\_\_\_\_

Duration: 2 hr 15 min

Date: 21<sup>st</sup> August 2007

Parent's Signature: \_\_\_\_\_

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. This paper consists of 3 sections: Section A, Section B and Section C.
4. For questions 1 to 15 in Section A, shade the correct ovals on the Optical Answer Sheet (OAS).
5. ANSWER ALL THE QUESTIONS.

	Maximum	Marks Obtained
Section A	20	
Section B	30	
Section C	50	
Total	100	

\* This paper consists of 24 pages altogether.

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**Section A (20 marks)**

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each.

For each question, four options are given. One of them is the correct answer.

Make your choice (1, 2, 3 or 4). Shade the oval (1, 2, 3 or 4) on the Optical Answer Sheet.

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1. The value of the digit 7 in 1 073 068 is \_\_\_\_\_.

(1) 700

(2) 7 000

(3) 70 000

(4) 700 000

( )

2. Which of the following has the greatest value?

(1)  $\frac{7}{10}$

(2)  $\frac{5}{8}$

(3)  $\frac{3}{5}$

(4)  $\frac{4}{9}$

( )

3. Brandon had 20 words to learn for a spelling test and he spelt 20% of the words incorrectly.

How many words did he spell correctly?

(1) 2

(2) 4

(3) 14

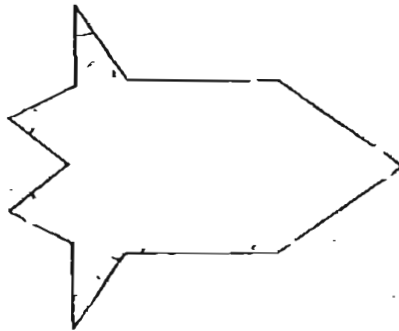
(4) 16

( )

4. A machine can print one set of cards in 15 mins.  
How many sets of cards can the same machine print in 5 hours?

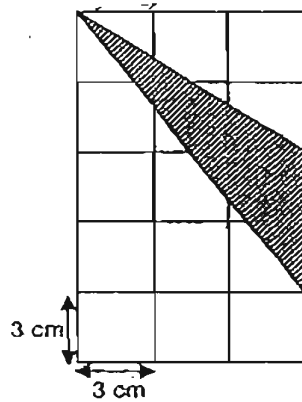
- (1) 75
- (2) 20
- (3) 5
- (4) 4

5. In the figure shown below (not drawn to scale), how many angles inside the figure are greater than  $90^\circ$ ?



- (1) 5
- (2) 7
- (3) 8
- (4) 12

6. Find the area of the shaded portion of the figure, given that the grid is made up of 3-cm squares.



- (1)  $3 \text{ cm}^2$   
(2)  $6 \text{ cm}^2$   
(3)  $27 \text{ cm}^2$   
(4)  $54 \text{ cm}^2$
7. 3 pupils share some cards in the ratio 3:9:4.  
If the smallest share is 18 cards, how many cards are there in all?
- (1) 6  
(2) 24  
(3) 54  
(4) 96
8. The average of 5 numbers is 66. The sum of four of the numbers is 60.  
Find the fifth number.
- (1) 6  
(2) 90  
(3) 126  
(4) 270

9. Express 0.45 as percentage.

- (1) 0.45 %
- (2) 4.5 %
- (3) 45 %
- (4) 450 %

10. The breadth of a rectangle is  $x$  cm and the length is 3 times its breadth. Find the perimeter of the rectangle.

- (1)  $3x$  cm
- (2)  $6x$  cm
- (3)  $8x$  cm
- (4)  $(2x + 6)$  cm

11. Ashley had a length of string. She gave  $\frac{1}{3}$  of it to Daisy and  $\frac{1}{4}$  of the remainder to Jamie. What fraction of the string did Jamie get?

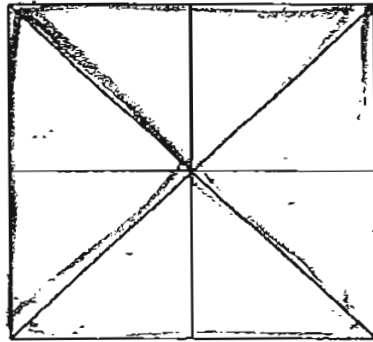
- (1)  $\frac{3}{4}$
- (2)  $\frac{1}{2}$
- (3)  $\frac{1}{4}$
- (4)  $\frac{1}{6}$

12. Peter opens his shop daily for business from 8.15 a.m. to 12 p.m. and from 2 p.m. to 7.15 p.m.

How long does Peter open his shop for business daily?

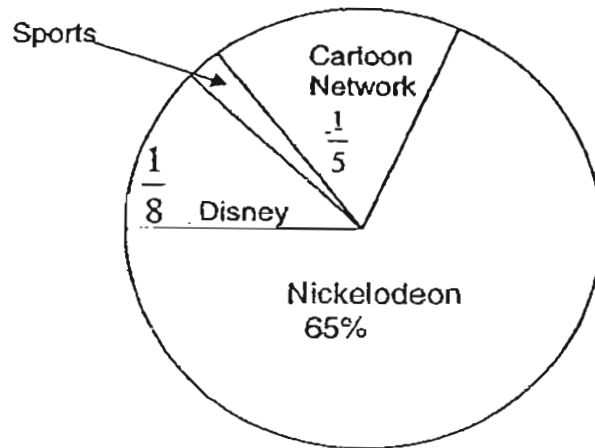
- (1) 9 hours
- (2) 9 hours 30 mins
- (3) 11 hours
- (4) 15 hours 30 mins

13. How many triangles of all sizes can you find in this figure?



- (1) 8
- (2) 12
- (3) 16
- (4) 18

14. The pie chart shows the favourite television channel of students in a class. What percentage of the students in the class chooses Sports as their favourite channel?



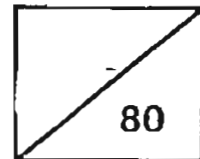
- (1) 2.5%
- (2) 12.5%
- (3) 20%
- (4) 35%
15. The usual selling price of a laptop is \$1 800. What is its price when there is a 7% discount?
- (1) \$126
- (2) \$540
- (3) \$1 674
- (4) \$1 926



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## BOOKLET B

### Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. This booklet consists of 2 parts, Section B and C.
4. For questions 36 to 48 in Section C, show all relevant working in the spaces provided.
5. ANSWER ALL THE QUESTIONS.

70



**Section B (30 marks)**

For each question, write your answers in the spaces provided. Show your working below each question. Give your answers in the units stated. Questions 16 to 25 carry 1 mark each. Questions 26 to 35 carry 2 marks each.

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16. What is the missing number in this sequence?

2, 6, 12, 20,    ?, 42, .....

Ans: \_\_\_\_\_ (1m)

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17. Express 57 min as a fraction of 3 hours in its simplest form.

Ans: \_\_\_\_\_ (1m)

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18. Joseph saves \$400 every three months.  
How many years will he take to save \$6400?

Ans: \_\_\_\_\_ (1m)

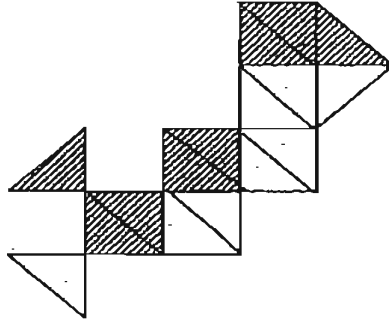
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19. Which number is both a multiple and a factor of 35?

Ans: \_\_\_\_\_ (1m)

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20. What fraction of the figure below is unshaded?  
(Give your answer in its simplest form).



Ans: \_\_\_\_\_ (1m)

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21. 30% of a number is 21. What is 90% of the same number?

Ans: \_\_\_\_\_ (1m)

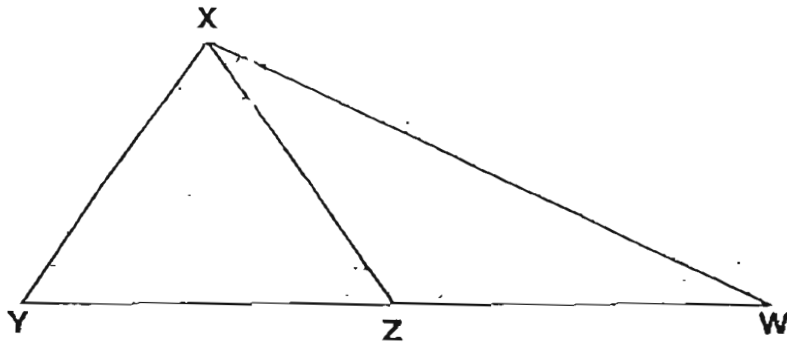
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22. A solid has a volume of  $959 \text{ cm}^3$ . If the height of the solid is 7 cm, find the base area.

Ans: \_\_\_\_\_  $\text{cm}^2$  (1m)

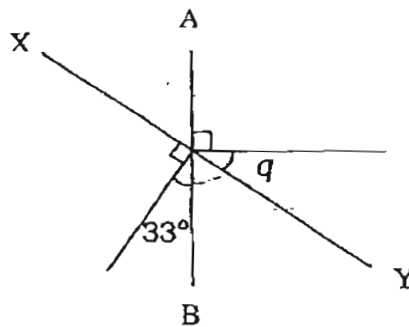
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23. In the figure (not drawn to scale), XYZ is an equilateral triangle. What is the value of  $\angle ZXW$ ? and xz is equal to



Ans: \_\_\_\_\_<sup>o</sup> (1m)

24. The figure below is not drawn to scale. AB and XY are straight lines. Find angle  $q$ .



Ans: \_\_\_\_\_<sup>o</sup> (1m)

25. An aeroplane travelled 109 408 km in 8 hours. Find the aeroplane's average speed...

Ans: \_\_\_\_\_ km/h (1m)

26. In 8 years' time, Richard will be half his mother's age. If his mother is 58 years old now, what is Richard's age now?

Ans: \_\_\_\_\_ (2m)

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27. Harry wants to buy a handphone. His savings is only  $\frac{3}{5}$  of the price of the handphone and he needs \$112 more. What is the price of the handphone?

Ans: \$ \_\_\_\_\_ (2m)

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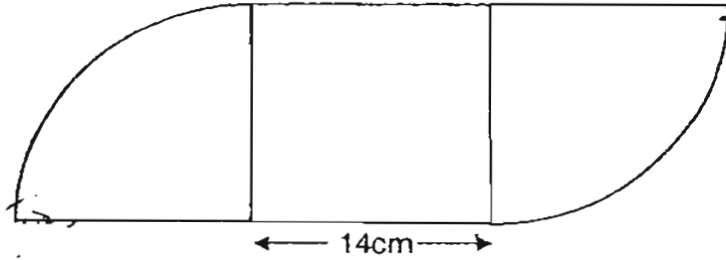
28. Simon bought 45 fifty-cent stamps and some twenty-cent stamps. He gave the cashier \$50 and received \$15.30 change. How many twenty-cent stamps did Simon buy?

Ans: \_\_\_\_\_ (2m)

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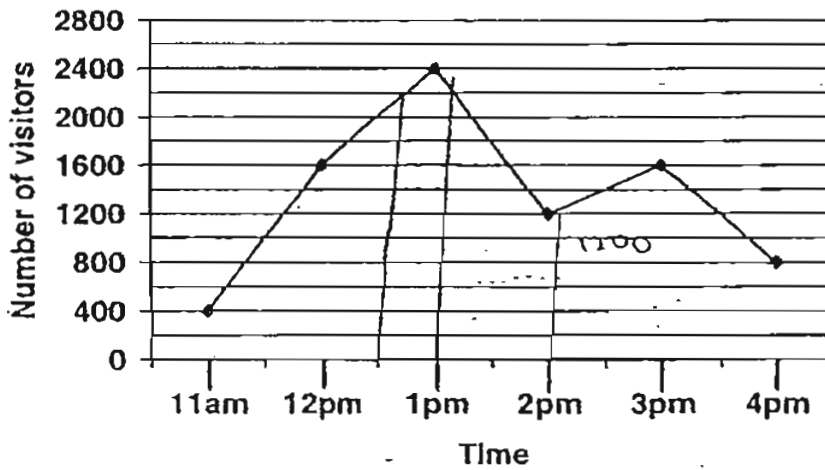
29. The figure shows a square and 2 quarter circles. Find the area of the figure.

(Take  $\pi = \frac{22}{7}$ )



Ans: \_\_\_\_\_  $\text{cm}^2$  (2 m)

30. The graph below shows the number of visitors at a shopping mall. Study the graph and answer questions 30(a) and 30 (b)



a) How many visitors are there at 12.30 p.m.?

b) What was the decrease in the number of visitors from 1pm to 2pm?

Ans: a) \_\_\_\_\_ (1m)

b) \_\_\_\_\_ (1m)

31. If  $a = 6$ , find the value of  $8a - a \div 6$ .

Ans: \_\_\_\_\_ (2m)

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32. The sum of 3 consecutive even numbers is 522. Find the biggest number.

Ans: \_\_\_\_\_ (2m)

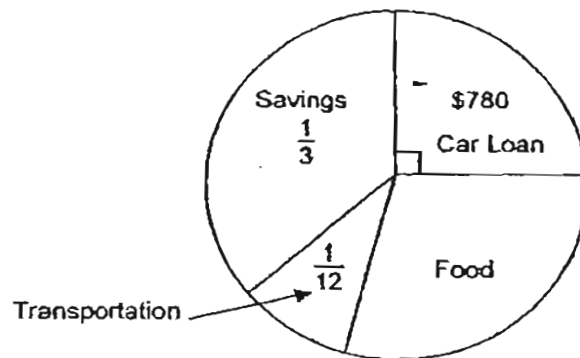
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33. The canteen vendor sold  $\frac{1}{5}$  of his puffs on Thursday and  $\frac{1}{2}$  of the remainder on Friday. If he sold 19 puffs more on Friday than on Thursday, how many puffs did he sell for the two days altogether?

Ans: \_\_\_\_\_ (2m)

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34. The pie chart below shows the amount of money that Tommy spent in a month.



How much did Tommy spend for food ?

Ans: - \$ \_\_\_\_\_ (2m)

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35. The ratio of the number of stamps Michael has to the number of stamps Cheryl has is 1 : 3. The ratio of the number of stamps Cheryl has to the number of stamps Vanessa has is 6 : 7. If Michael has 15 stamps less than Vanessa, how many stamps does Cheryl have?

Ans: \_\_\_\_\_ (2m)

**Section C**

For questions 36 to 48, show your working clearly in the space below each question and write your answers in the spaces provided.

The marks for each question or part-question is shown in brackets ( ) at the end of each question. (50 marks)

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36. The average weight of 5 boys is  $8w$  kg. When 2 more children whose weights are  $11w$  kg and  $12w$  kg respectively joined the group, what is the average weight of the boys now ?

Ans: \_\_\_\_\_ (3m)

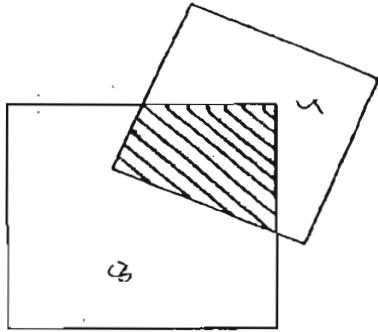
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37. A tank with a square base of side 5 m was  $\frac{1}{3}$  full of water. When another  $100 \text{ m}^3$  of water was poured into the tank, it became  $\frac{1}{2}$  full. Find the capacity of the tank.

Ans: \_\_\_\_\_ (3m)

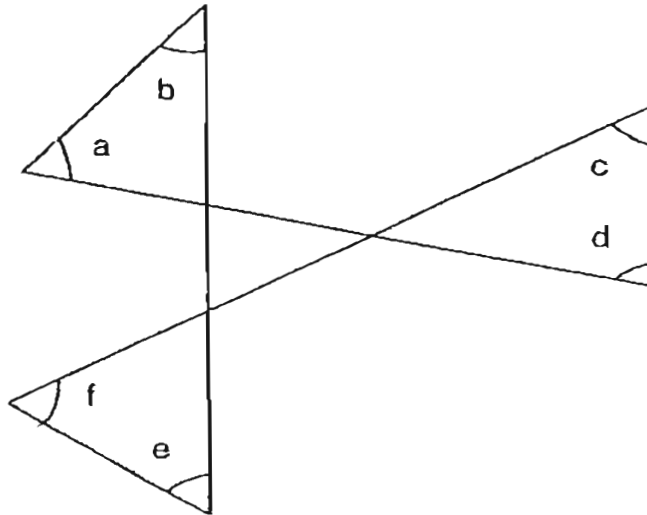


38. In the figure not drawn to scale, the ratio of the area of the bigger square to the smaller square is 8 : 4. If 25% of the larger square is shaded, what percentage of the whole figure is not shaded ?



Ans : \_\_\_\_\_ (3m)

39. Find the sum of the six marked angles in the diagram.



Ans : 4 (3m)

40. Machine A can do a printing job in 2 hours. Machine B can do the same job in 3 hours. If both machines are used at the same time, how long would it take to complete half the printing job ?

Ans : \_\_\_\_\_ (3m)

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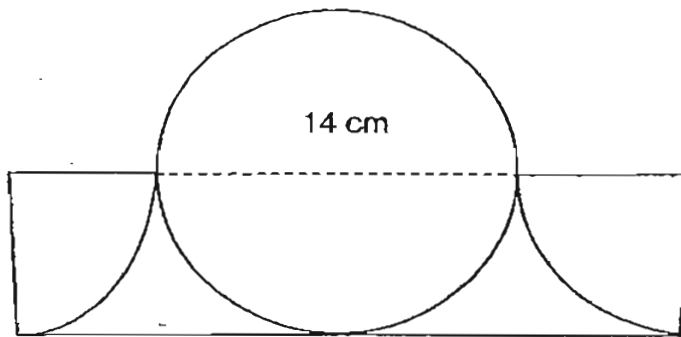
41. The table below shows the rates at which a construction worker is being paid daily.

For first 8 hours of work	\$10 per hour (Normal rate)
Overtime pay per hour	1.5 x Normal rate

How many hours must he work in a day to earn \$140 ?

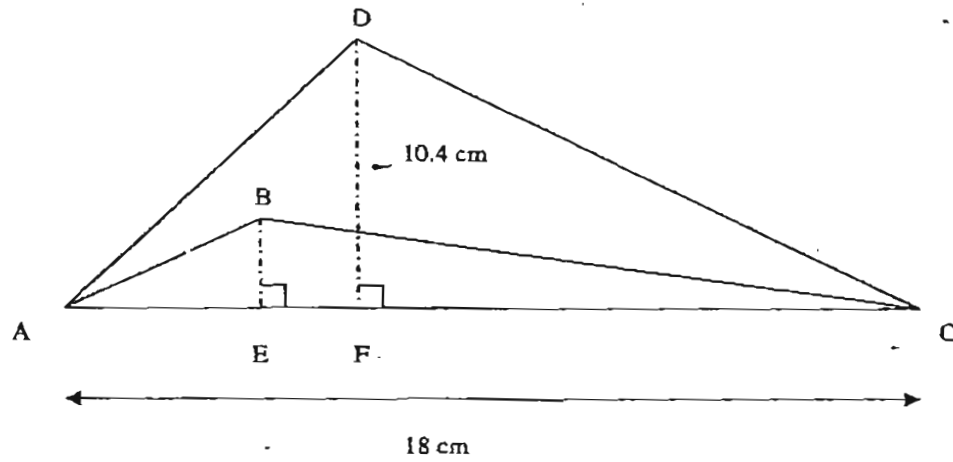
Ans : \_\_\_\_\_ (3m)

42. Find the area of the figure. (Take  $\pi = \frac{22}{7}$ )



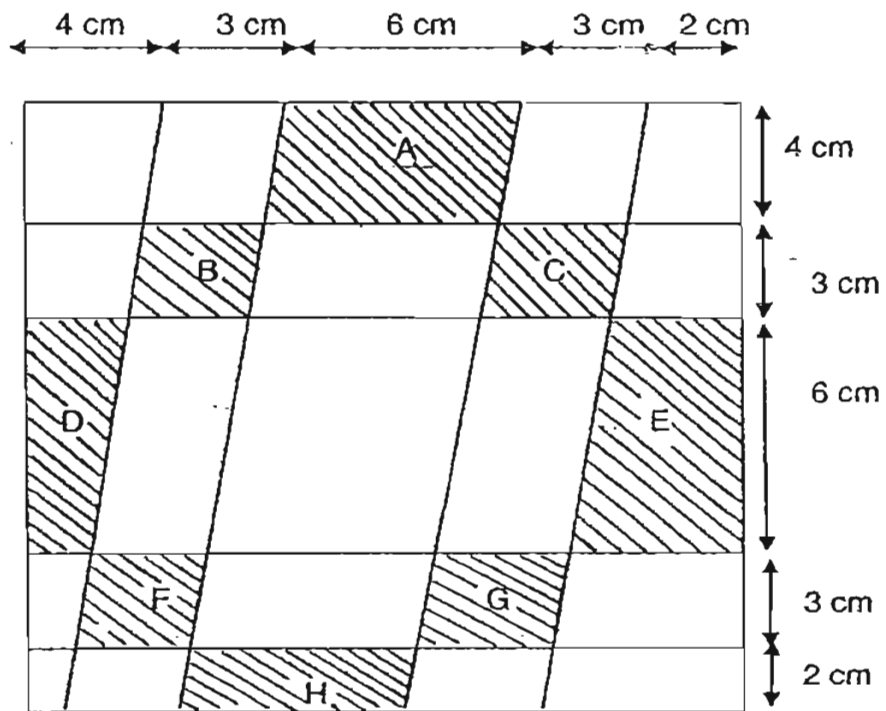
Ans: \_\_\_\_\_ (4m)

43. The area of the figure ABCD is  $48.5 \text{ cm}^2$ . Find the length of BE.  
(Give your answer to the nearest tenth)



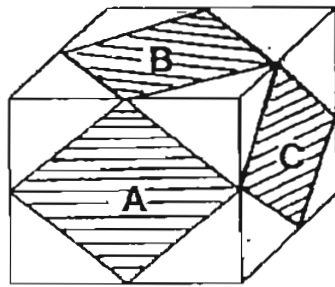
Ans: \_\_\_\_\_ (4m)

44. The figure below is not drawn to scale. What fraction of the figure is the total area of the shaded regions A, B, C, D, E, F, G and H ? —



Ans : \_\_\_\_\_ (5m)

45. The figure shows a cube with 3 painted parts A, B and C. These painted parts are of the same area and they are touching the midpoints of the sides of the cube. The total area of the painted parts is  $54 \text{ cm}^2$ . Find the volume of the cube.



Ans : \_\_\_\_\_ (4m)

46. The total cost of 28 textbooks and workbooks is \$784.  $\frac{3}{4}$  of the books are textbooks and the remaining books are workbooks. A workbook cost half as much as a textbook. Find the difference in the price of a textbook and a workbook.

Ans : \_\_\_\_\_ (5m)



47. The perimeter of a rectangle to that of a square is in the ratio of 11 : 6. If the square has an area of  $144 \text{ m}^2$  and the length and breadth of the rectangle are in the ratio of 6 : 5, find the length and breadth of the rectangle.

Ans: \_\_\_\_\_ (5m)

48. A bus was travelling at a constant speed from Town A to Town B. It passed a car traveling at a constant speed of 90 km/h in the opposite direction.  $1\frac{1}{2}$  hours later, the bus reached Town B but the car was still 25 km away from Town A. If the bus took 4 hours to complete the whole journey, what is the distance between the two towns ?

Ans: \_\_\_\_\_ (5m)

End of Paper

Q1	Q2	Q3	Q4	Q5
3	1	4	2	2
Q6	Q7	Q8	Q9	Q10
3	4	4	3	3
Q11	Q12	Q13	Q14	Q15
4	1	3	1	3

16. 30

$$\frac{19}{60}$$

17.  $\frac{19}{60}$

18. 4 years

19. 36

$$\frac{1}{2}$$

20.  $\frac{1}{2}$

21. 63

22. 137cm<sup>2</sup>

23. 30°

24. 33°

25. 13676km/hr

26. 25

27. \$280

28. 61 twenty-cents stamps

29. 504cm<sup>2</sup>

30a. 2000

31. 47

30b. 1200

32. 176

33. 57

34. \$1040

35. 18

36. 9w kg

37. 600m<sup>3</sup>

38. 80%

39. 360°

40.  $\frac{3}{5}$ h

41. 12 hours

42. 12 hours

44.  $\frac{1}{3}$

46. \$16

48. 256km

43. 5.0cm

45. 216cm<sup>3</sup>

47. The length is 24m  
The breadth is 20m