Primary Six
Mathematics
Semestral Assessment One

Questions 1 to 5 carry 1 mark each. Questions 6 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) and write it in the box provided. (25 marks)

1.   In 30.95, the digit '0' is in the _____ place.

   (1)   ones   (2)   tens
   (3)   tenths   (4)   hundredths

2. $3h + 8 - h - 6$ is the same as _____.

   (1) $4h - 2$ (2) $4h + 2$
   (3) $2h - 2$ (4) $2h + 2$

3.   Express 3 hours as a percentage of 120 minutes.
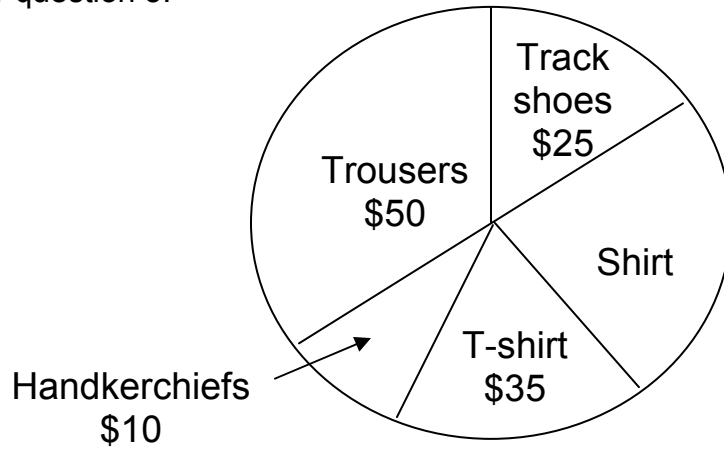
   (1)   40%   (2) $66^2/_3\%$
   (3)   105%   (4)   150%

4.   The figure below is not drawn to scale. The radius of the circle is 6cm.
        Find the circumference of the circle in terms of π.

6cm
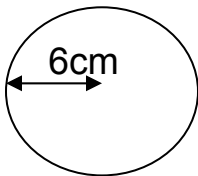
   (1)   6 π cm   (2)   12 π cm
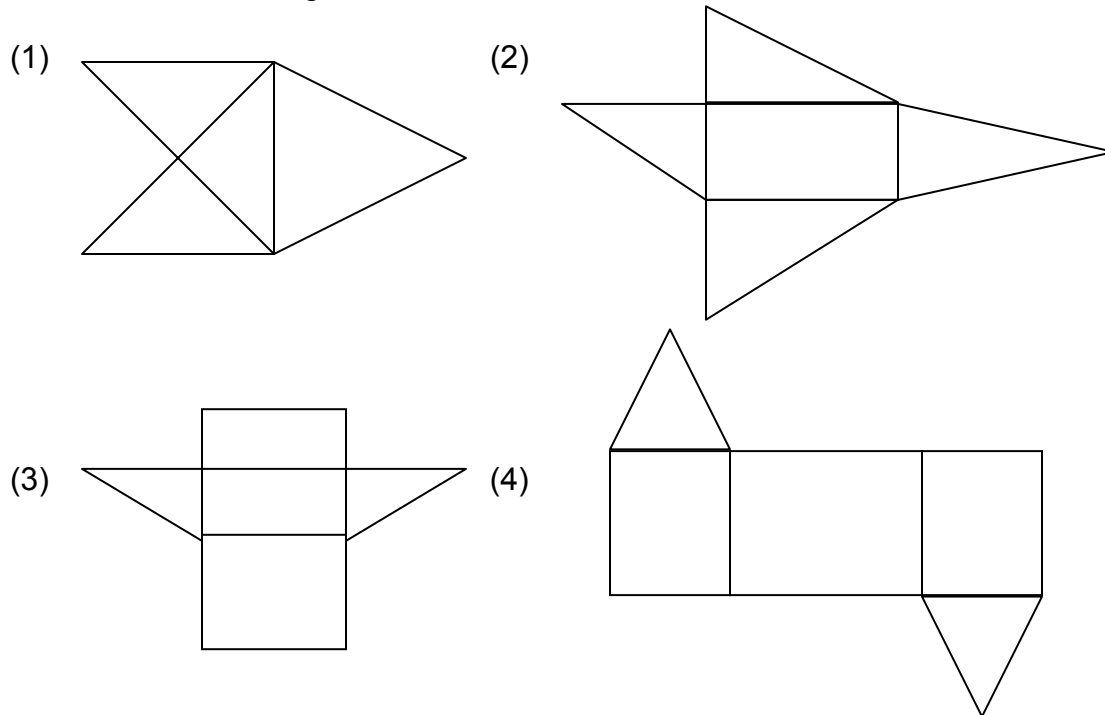   (3)   36 π cm   (4)   144 π cm

5. The pie chart below shows how Andy spent $150 last Saturday. Use it to answer question 5.
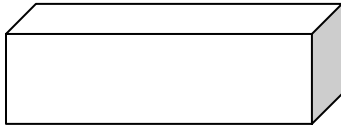

What fraction of the total amount did Andy spend on the shirt?

(1) $^7/_{30}$ (2) $^1/_5$

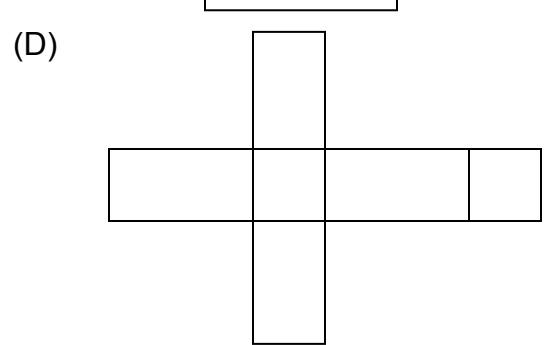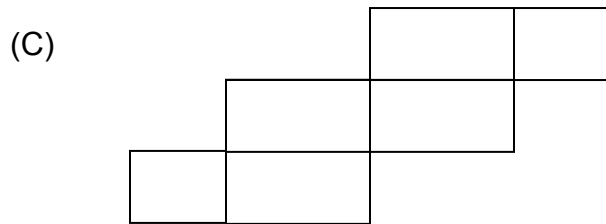(3) $^1/_3$ (4) $^1/_2$

6. Which of the following nets cannot be folded to form a solid?

(1)

(2)

(3)

(4)

7. The following shows a cuboid.

Which of the nets shown below can be folded to form the cuboid?

(A)

(B)

(C)

(D)
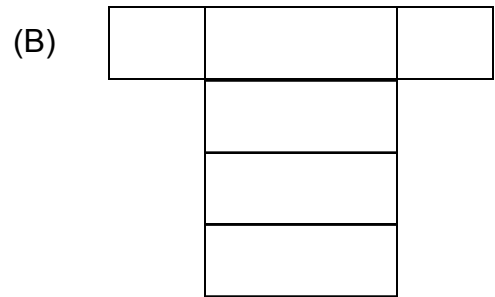
(1)   A and B   (2)   B and C
(3)   A and D   (4)   B and D

8. Sue is q years old now. Her mother is 3 times as old as Sue. What will be their total age be in 4 year's time?

(1)   (3q + 4) years old   (2)   (3q + 8) years old
(3)   (4q + 4) years old   (4)   (4q + 8) years old

9. There are 28 tins of milk in a box. The empty box weighs 0.73kg. Each Tin of milk weighs 0.59kg. Find the total weight of the box and its content. Give your answer to the nearest kg.

(1)   17 kg   (2)   18 kg

(3)   20 kg   (4)   21 kg

10. The perimeter of a rectangle is 48 m. The ratio of its breadth to its length is 3 : 5. Find its area.

(1)   15 m²   (2)   48 m²

(3)   135 m²   (4)   540 m²

11. $^3/_4$ of the audience watching "I not Stupid" were children and the rest were adults. $^2/_3$ of the adults were men. What is the ratio of women to the number of children?

(1)   3 : 4   (2)   2 : 3

(3)   2 : 1   (4)   1 : 9

12. A motorist traveled a distance of 12 km in $1^1/_2$ hour. How far would he have traveled in 57 minutes?

(1) $7^3/_5$ km   (2)   8 km

(3)   18 km   (4)   456 km

13. The usual price of 4 pencils was $q. Aaron bought 12 pencils. He was given a discount of $p for each pencil. How much did he pay together?

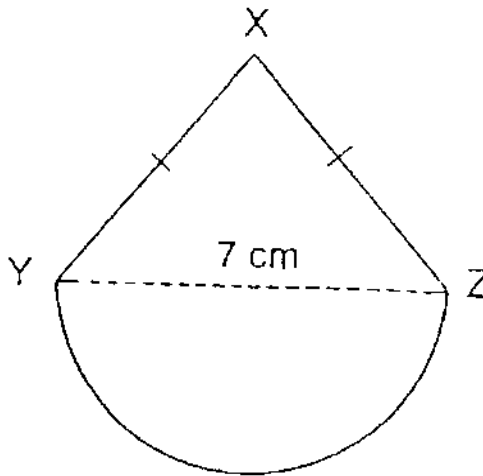(1) $ (3q – 3p)   (2) $ (3q – 12p)

(3) $ (12q – 3p)   (4) $ (12q – 12p)

14. 75% of the 400 people in the stadium were children. The rest were adults. If 20% of the adults were women, how many men were there?

(1) 5   (2) 20

(3) 80   (4) 100

15. The figure shown below (not drawn to scale) is made up of an isosceles triangle and a semi-circle of diameter 7 cm. Its perimeter is 27 cm. Find the length XY. (Take $\pi = \frac{22}{7}$)

X

Y   7 cm   Z

(1) 5 cm   (2) 8 cm

(3) 17 cm   (4) 20 cm

For each question, write your answers in the spaces provided. Give your answers in the units stated. Questions 16 to 35 carry 1 mark each. (20 marks)

_____

16. Subtract 199 from 399 103. Round off the answer to the nearest hundred.

    [ ]

17. How many eighths are there in $6\frac{1}{4}$?

    [ ]

18. If p=15, q=10 and r=5, find the value of $(q^2 - 2r) \div p$.

    [ ]

19. In $\frac{2}{5}$: 15 = [ ] : 105, what is the missing number in the box ?

    [ ]

20. Mrs Lee can bake 8 cookies in 5 minutes. How many cookies can she bake in $\frac{2}{3}$ h ?

    [ ]

21. When Jenny bought a pen for 20% less than its usual price, she saved $32. What was the original price of the pen ?
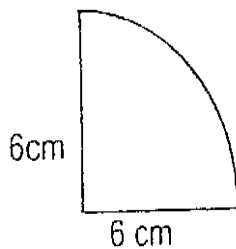
22. The figure below is made up of 8 equal squares. What percentage of the figure is shaded ?
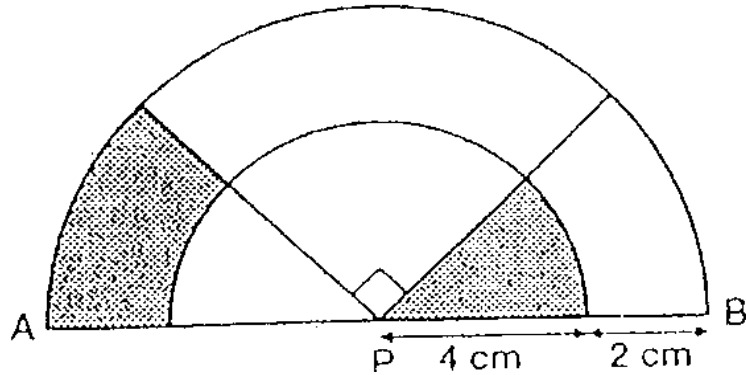

%
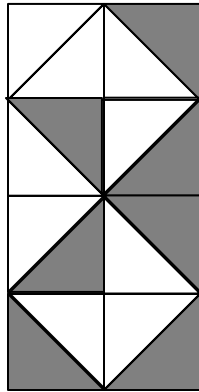
23. George swims 100 metres in 10 seconds. Find the distance he swims in 5 minutes assuming that he maintains a constant speed throughout.

m

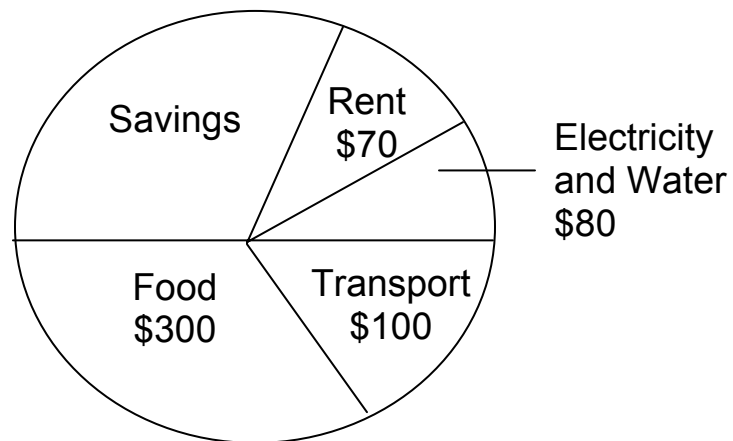24. Find the perimeter of a quadrant with diameter 12 cm. (Take π = 3.14)

6cm

6 cm

cm

25. The figure consists of two semi-circles with P as the center. Find the area of the shaded part. (Take π = 3.14)

| | cm² |

The pie chart below shows how Mr Eng spends his monthly income. Use the pie chart to answer Questions 26 and 27.
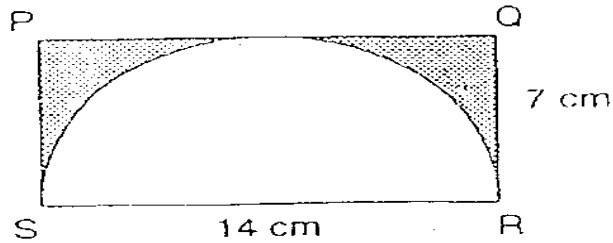

26. If the ratio of Mr Eng's savings to his expenditure on food is 5 : 6, what is his monthly income ?

| |

27. What percentage of Mr Eng's monthly income did he spend on rent ?

| | % |

28. PQRS is a rectangle and SR is the diameter of a semi-circle. Find the area of the shaded part of rectangle PQRS. (Take $\pi = {}^{22}/_7$)

| | cm^2 |

29. Jon jogged and walked a total distance of 4 km. He jogged half the distance and walked the rest of the way. His jogging speed was 6 km/h. His walking speed was 4 km/h. What was the total time taken to complete his jog and walk ? (Express your answer in the simplest form)

| | h |

30. By selling an item for $192, a shopkeeper makes an increase of 25%. Find the cost price of the item.

| $ | |

31. For every $5 Tammy earns, she spends $1.85. How much money does she spend if she earns $2000 ?

| $ | |

32. In a test, there were 80 questions, Amy answered 75% of them correctly while Sabrina answered 80% of them correctly. How many per cent more correct answers did Sabrina have than Amy ? (Round off your answer to the nearest whole number)

	%

33. The sides of a right-angled triangle (as shown below) are in the ratio of 3 : 4 : 5. What is the area of triangle if the longest side is 15cm ?
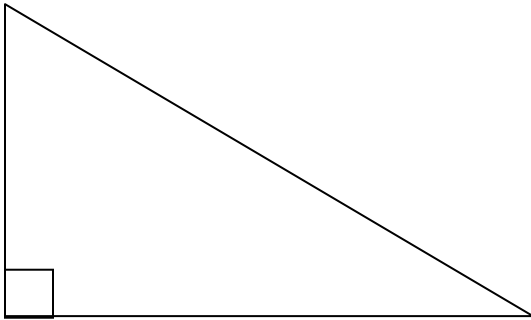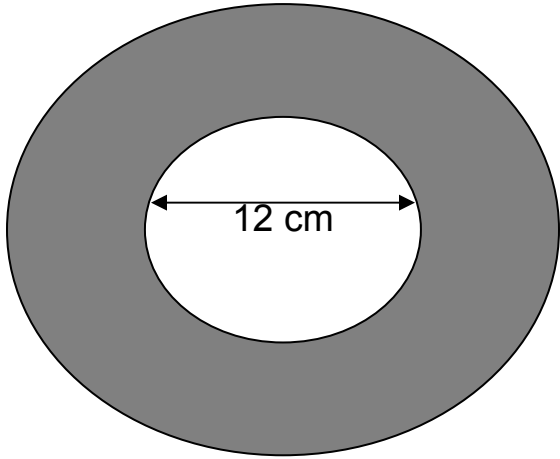

	cm^2

34. *m* adults arranged themselves into *x* groups. How many woman were there in each group if there were 12 men in each group ?

	women

35. The difference in the radio of the 2 circles is 2 cm. The diameter of the smaller circle is 12 cm. Find the area of the shaded part. (Take π = 3.14)

12 cm

| | cm² |

For questions 36 to 50, show your working clearly in the space below each question and write your answer in the spaces provided. The number of marks available is shown in bracket ( ) at the end of each question or part-question.
(55 marks)

_____

36. Mrs Chen had enough money to buy exactly a table and 4 chairs. However, she bought only a table and 2 chairs, and was left with $120. If each chair cost the same amount and the table cost $150, how much money did Mrs Chen have at the beginning? [2]

37. Peter and Bryan shared a basket of watermelons in the ratio 5 : 9 respectively. When Bryan gave Peter 6 watermelons, he found that both of them had the same number of watermelons. How many watermelons were there in the basket? [2]

38. Hasan bought 180 rubber balls. He sold 120 of them at $5 each. He sold the rest at a discount of 20% of the selling price. Find the total amount collected. [2]

39. The number of women at a concert was $3/5$ that of the men and children. The number of children was $1/3$ that of the women. What fraction of the people at the concert were men? [3] (Express your answer in the simplest form)

40. The ratio of the number of fiction books to the number of non-fiction books in a school library was 7 : 4. After 420 fiction books were borrowed, the ratio of the number of fiction books to the number of non-fiction books became 11 : 8. How many fiction books were there in the library at first? [3]

41. An ink-jet printer cost $^3/_5$ as much as a laser printer. The cost of the laser printer is $650.

    a)   Find the cost of the ink-jet printer. [1]

    b)   How many per cent less is the cost of the ink-jet printer than the laser printer? [2]

42. Rekha draws two figures, P and Q. P has 8 equal sides while Q has 6 equal sides. The perimeter of P is three times the perimeter of Q. If Q has a perimeter of 19.2 cm, what is the difference in length between one side of Figure P and one side of Figure Q? [3]

43.   A pattern is made with six 1-cm squares. These are arranged in a rectangle with a border of 0.5 cm around each square as shown in the figure below.
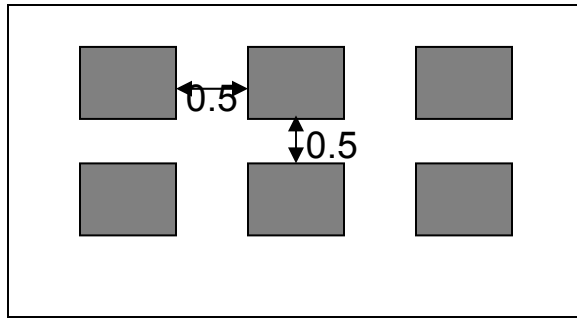

What is the ratio of the total area of the six squares to the area of the space not covered by the six squares? [4]

44. Mr Tan drove from Town A to Town B which is 360 km away in 5h. Mr Wong passed Town A half an hour later than Mr Tan and travelled to Town B at a uniform speed of 90 km/h.

a) At what speed did Mr Tan travel? [1]

b) When Mr Wong reached Town B, how far away was Mr Tan from Town B? [3]

45. In the figure below, the radius of the circle is 7 cm. What is the area of the shaded part? [4] (Take $\pi = \frac{22}{7}$)

46. The pie chart shows the preference of pupils for different CCAs. The total number of pupils is 3000. AOB is the diameter.
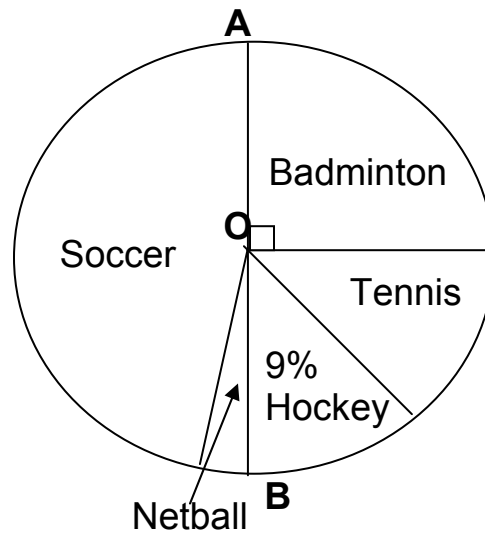
a) What fraction of the pupils prefers tennis? [2] (Express your answer in the simplest form)

b) If 150 pupils prefer netball, what percentage of the pupils like soccer? [2]

47. A container weighs 870 g when it is $^3/_5$ filled with rice and 750 g when it is half filled with rice.
   a) Find the weight of the empty container. [3]

   b) Find the weight of the container when it is full of rice. [2]

48. Boxes A, B, C and D contain some one-dollar, fifty-cent, twenty-cent and ten-cent coins, respectively. Box A has 5 times as many coins as Box C. Box B contains 12 coins fewer than Box A. Box C contains one-third the number of coins in Box B, and twice as many coins as Box D. What is the total amount of money in the four boxes? [5]

49. The ratio of male to female members in a sports club is 5 : 3. There are 24 Malay members and the rest are Chinese. The ratio of Chinese to Malay members is 4 : 3. If there are 14 female Malay members, what is the ratio of the Chinese male to Chinese female members? [5]

50. At the start of a football match, 80% of the spectators were adults. 15 minutes before the game ended, 1,920 people left. Then, the number of adults among the spectators decreased by 25% and the number of children decreased by 60%. Find the total number of spectators at the start of the football match. [5]

End of Paper

Remember to check your answers