

**Primary Six
Mathematics
Semestral Assessment One**

Section A: Questions 1 to 5 carry 1 mark each. Question 6 to 15 carries 2 marks each. Each question is followed by four possible answers. Mark your choice [1, 2, 3, 4] in the given box.

1) What is the sum of 7 tens and 7 tenths?

- 1) 77
- 2) 70.7
- 3) 70.07
- 4) 7.07

2) Express 44 cm as a percentage of 4m.

- 1) 11.1%
- 2) 11%
- 3) 1.1%
- 4) 0.11%

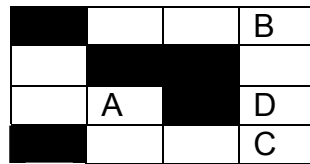
3) Mr. Chua drove a distance of 200km at an average speed of 50km/h. If he reached his destination at 1230pm, at what time did he start his journey?

- 1) 8.30 am
- 2) 9.00 am
- 3) 4.30 pm
- 4) 8.30 pm

4) The ratio of ribbon X to ribbon Y is 3:5. What fraction of X is Y?

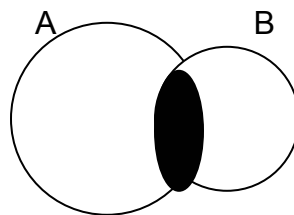
- 1) $\frac{5}{8}$
- 2) $\frac{5}{3}$
- 3) $\frac{3}{8}$
- 4) $\frac{3}{5}$

5) Which square(s) would you shade to make the figure below symmetric?



- 1) A only
- 2) A and D only
- 3) B and C only
- 4) B and D only

6) The figure below is made up of 2 overlapping circles. The ratio of the shaded area to the area of circle A is 2 : 7. The ratio of the shaded area to the area of circle B is 3 : 7. What is the ratio of the shaded area to the total unshaded area of the figure?



- 1) 5 : 7
- 2) 5 : 14
- 3) 6 : 21
- 4) 6 : 23

7) A truck uses 4 litres of petrol for every 42 km. If the petrol cost \$2 per litre, what will be the cost for a journey of 126km?

- 1) \$14
- 2) \$16
- 3) \$18
- 4) \$24

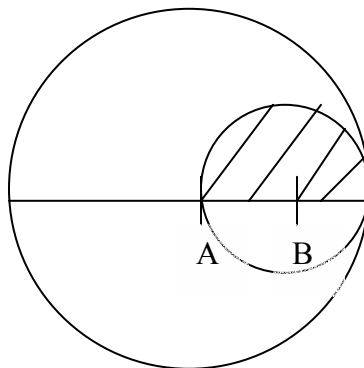
8) James is k years old. His father is 4 times his age and 2 years older than his mother. How old was his mother when James was born?

- 1) $(3k + 2)$ years old
- 2) $(3k - 2)$ years old
- 3) $(4k + 2)$ years old
- 4) $(4k - 2)$ years old

9) When water is poured into an empty container filling it completely, it weighs 810g. When it is only $\frac{3}{5}$ filled with water, the weight of the container and the water is 766g. Find the weight of the container when it is empty.

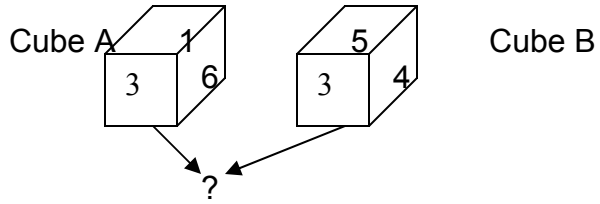
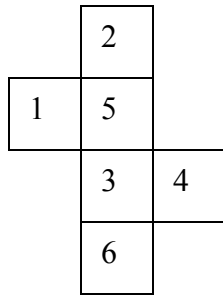
- 1) 110g
- 2) 590g
- 3) 700g
- 4) 722g

10) In the diagram, A is the centre of the circle and B is the centre of the smaller circle. What fraction of the circle is shaded?



- 1) $\frac{1}{32}$
- 2) $\frac{1}{16}$
- 3) $\frac{1}{8}$
- 4) $\frac{1}{4}$

11) Cubes A and B have the same net as shown below



Find the sum of the 2 numbers at the bottom of cube A and cube B.

- 1) 7
- 2) 8
- 3) 10
- 4) 11

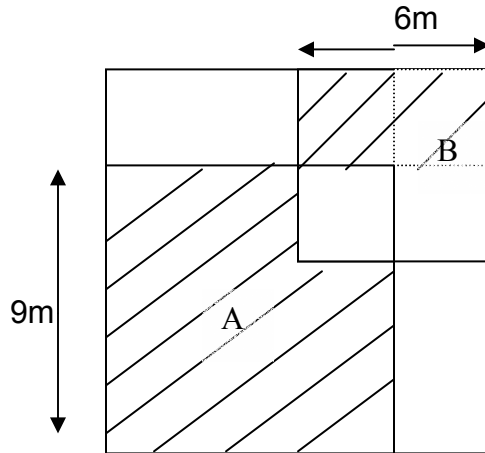
12) There are some groups of children. In each group, there are 12 boys and 8 girls. If there are altogether 24 more boys than girls, how many groups of children are there?

- 1) 6
- 2) 2
- 3) 3
- 4) 16

13) A bottle of jam cost \$1.25. A packet of peanuts cost 75c. Meimei spent $\frac{1}{4}$ of the money to buy a bottle of jam. What fraction of the remaining money did she spend to buy 2 packets of peanuts?

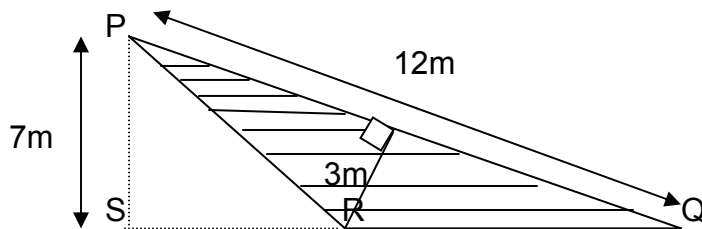
- 1) $\frac{1}{5}$
- 2) $\frac{2}{5}$
- 3) $\frac{3}{10}$
- 4) $\frac{1}{3}$

14) The figure below shows a big square with perimeter 48m. In which are 2 smaller squares A and B, which overlapped. Square A has a side of 9m while square B has a side of 6m. Find the total area of the unshaded parts.



- 1) 54 m^2
- 2) 56 m^2
- 3) 63 m^2
- 4) 117 m^2

15) What is the area of the unshaded triangle PQR?



- 1) 18 m^2
- 2) 21 m^2
- 3) 36 m^2
- 4) 42 m^2

Section B: Question 16 to 35 carries 1 mark. Write your answers in the space provided. Give your answers in the units stated.

- 16) Out of 400 children in a school, 100 are boys. How many percent more girls than boys are there in the school?

Ans: _____ %

- 17) Mohan's watch is 25 minutes fast. If the correct time is 8.50pm, what is the time shown on Mohan's watch?

Ans: _____ pm

- 18) How many sixths are there in $3\frac{1}{3}$?

Ans: _____ sixths

- 19) If $A : B = 3 : 2$ and $A : C = 6 : 1$. What is $B : C$?
Give your answer in its simplest form.

Ans: _____

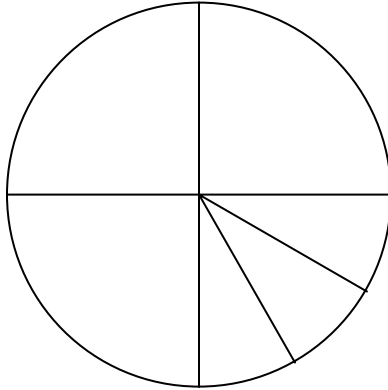
- 20) What is the remainder when 8080 is divided by 50?

Ans: _____

- 21) If $8.43 = 8 + \frac{?}{5} + \frac{3}{100}$, what is the missing number?

Ans: _____

- 22) A baker cut a cake into quarters. He then cut one of the quarters into 3 equal pieces as shown in the given figure. He sold 2 of the smaller pieces. What fraction of the cake was **not** sold? Express your answer in its simplest form.



Ans: _____

- 23) Find the missing number in the following number sequence.

1,	4,	10,	22,	46,	_____	, 190,
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Ans: _____

- 24) In $23 \times 54 = 20 \times 50 + 3 \times 50 + \square \times 4 + 3 \times 4$.

Ans: _____

- 25) Evaluate $24 + 6 \div 3 \times 5 + (8 - 2)$.

Ans: _____

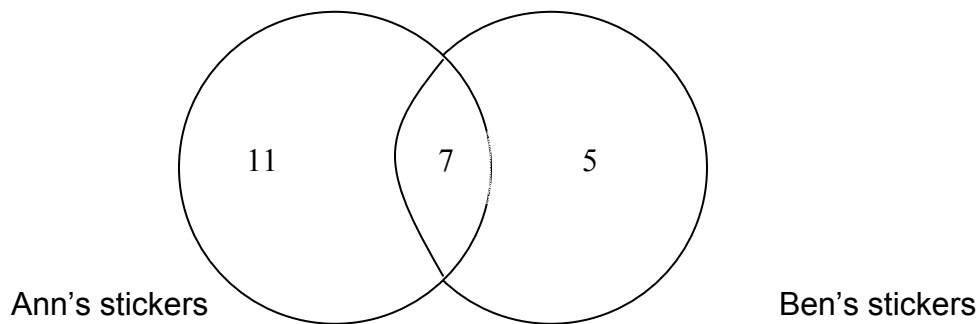
- 26) In a club, there were 35 men and 15 women, 10 more men joined the club. Find the percentage increase in club membership.

Ans: _____

- 27) A piece of meat of weight 18 kg is divided into 2 pieces. The larger piece is 2 kg heavier than the smaller piece. Find the ratio of the weight of the smaller piece to the weight of the larger piece. (Express your answer in its lowest terms)

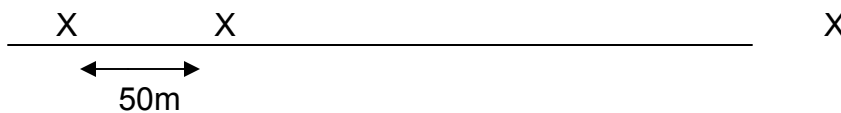
Ans: _____

- 28) Look at the Venn diagram below. Express the number of Ben's stickers as a fraction of Ann's stickers. (Give your answer in its simplest form)



Ans: _____

- 29) 10 soldiers were asked to form a single line. The distance between each soldier was 50m. What was the total length of the line formed?



Ans: _____m

30) Johan borrows \$1500 from a bank, which charges an interest rate of 3% per annum. Calculate the interest he will have to pay the bank for a period of 2 years.

Ans: _____

31) Mrs Li spends 30% of her salary on a television set and 60% of the remainder on a set of jewellery. What percentage of her salary is left?

Ans: _____

32) Look at the following sums.

$$\begin{array}{r} 11 \\ \times 11 \\ \hline 12 \end{array} \qquad \begin{array}{r} 111 \\ \times 111 \\ \hline 12321 \end{array} \qquad \begin{array}{r} 1111 \\ \times 1111 \\ \hline 1234321 \end{array}$$

What is the value of 11111×11111 ?

Ans: _____

33) A bag and 20 similar balls weigh 4 kg. Each ball weighs $\frac{1}{5}$ the weight of the bag. What is the weight of each ball?

Ans: _____

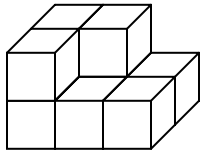
34) The table below shows the parking rates at a car park.

Parking Rates	
First hour	\$1.80
Every additional $\frac{1}{2}$ hour or part thereof	\$0.90

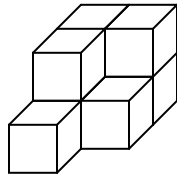
Mr. Ong's car was parked at the carpark from 9am to 11.10am. How much did he have to pay?

Ans: _____

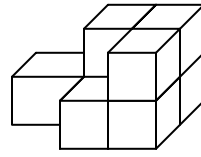
35) Which 2 of the following solid figures can be fitted together to form a cuboid?



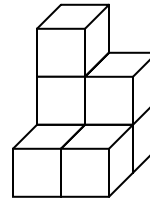
A



B



C



D

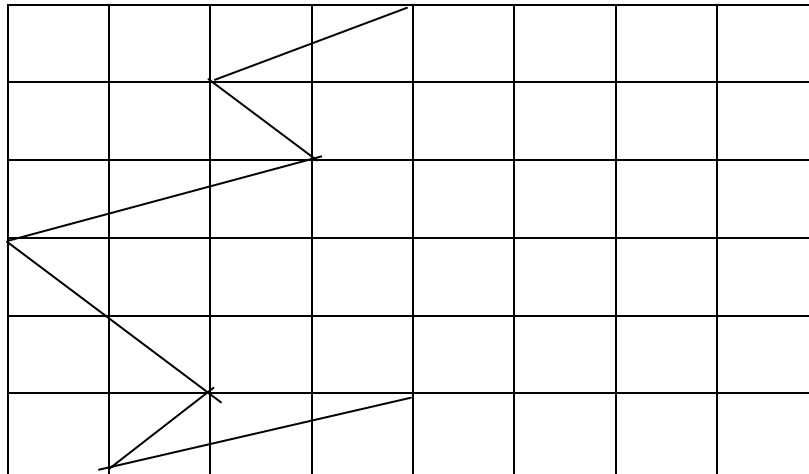
Ans: Solid Figures _____ & _____

Section C: For questions 36 to 50, show your workings clearly in the space below each question and write your answer in the space provided. The number of marks available is shown in brackets [] at the end of each question or part-question.

36a) Given $a = 3$, find the value of $24 \div (4a - 2) + 2$.

Ans: _____ [1m]

36b) The figure shows half of a symmetric figure. Complete the symmetric figure.

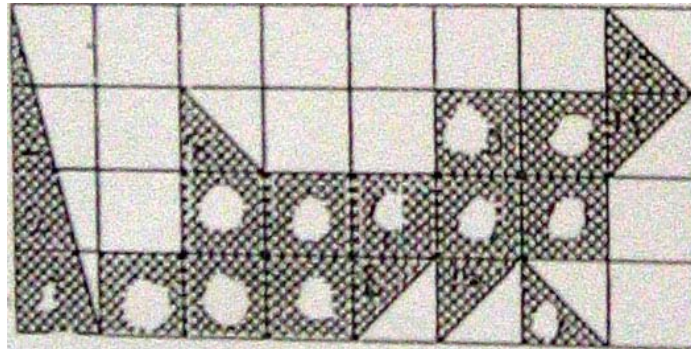


[1m]

37) 2 trains start from Town X and Town Y at 9.30am and travel towards each other at the speed of 63 km/h and 67 km/h respectively. If the distance between the 2 towns is 520 km, at what time will the 2 trains meet?

Ans: _____ [3m]

38) The grid below is made up of squares of side 3cm. What is the area of the shaded part?



Ans: _____ [3m]

39) Peter and John had \$510 together. Peter gave 40% of his money to his father and John spent 75% of his money. They found that they had an equal amount of money left.

(a) How much did John have at first?

(b) How much did Peter give to his father?

Ans: (a) _____ [3m]

Ans: (b) _____ [1m]

- 40) Zoe and Minah saved some money in the ratio of 3 : 4 respectively. Using this money, Zoe and Minah shared the cost of buying a present for their friend in the ratio of 2 : 3 respectively. Zoe used $\frac{1}{2}$ of her savings to pay for her share. Minah, after paying for her share, had \$21 left. How much was the cost of the present?

Ans: _____ [4m]

41) The residents in a housing estate are made up of adults and children. $\frac{3}{8}$ of them are men and $\frac{2}{5}$ of them are children. If there are 1 200 more men than women,

- (a) find the total number of people in the housing estate.
- (b) What fraction of the residents are girls if there are 2 000 boys?

Ans: (a) _____ [3m]

Ans: (b) _____ [2m]

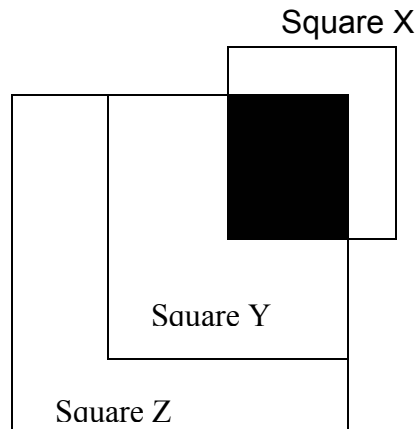
- 42) Charles and John traveled a distance of 240 km from Town X to Town Y. Both left Town X at 7.30am and traveled along the same route. Charles took 3 hours to reach Town Y. John's average speed was 5 km/h less than Charles'. At what time did John reach Town Y?

Ans: _____ [5m]

- 43) A total of 945 visitors visited an exhibition on a Sunday. $\frac{3}{5}$ of the visitors were children. The usual admission was \$6 each for adults and \$3.50 each for children. On that day, all the children were given a 40% discount of the usual admission fees. How much was collected from the visitors on that day?

Ans: _____ [5m]

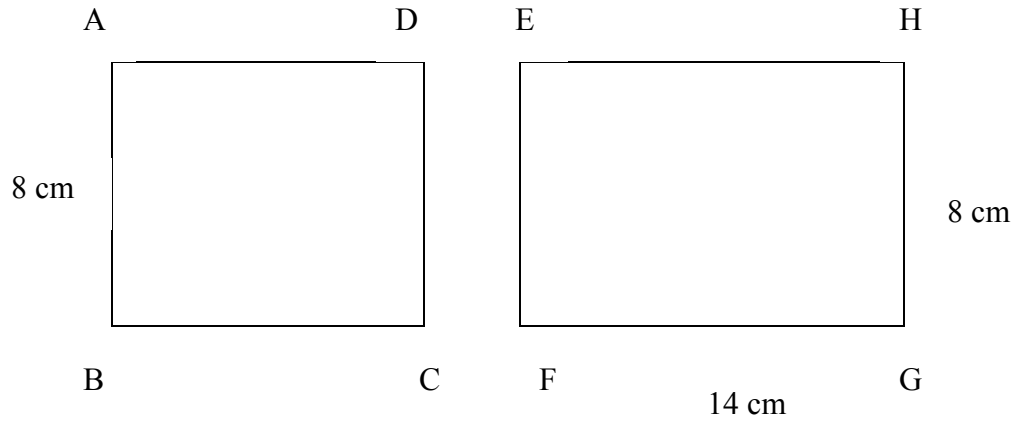
- 44) The figure consists of 3 over-lapping squares X, Y and Z.
The ratio of the area of X to that of Y to that of Z is 1 : 2 : 3.
If 40% of Y is shaded, what percentage of the figure is not shaded?



Ans: _____ [5m]

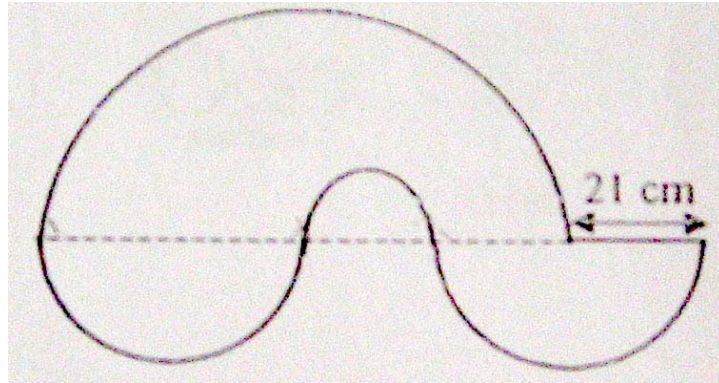
45) Rectangle ABCD has a breadth of 8cm. Rectangle EFGH measures 14 cm by 8 cm. The combined perimeter of the 2 rectangles is 80cm. Find

- a) The length of BC
- b) The area of rectangle ABCD



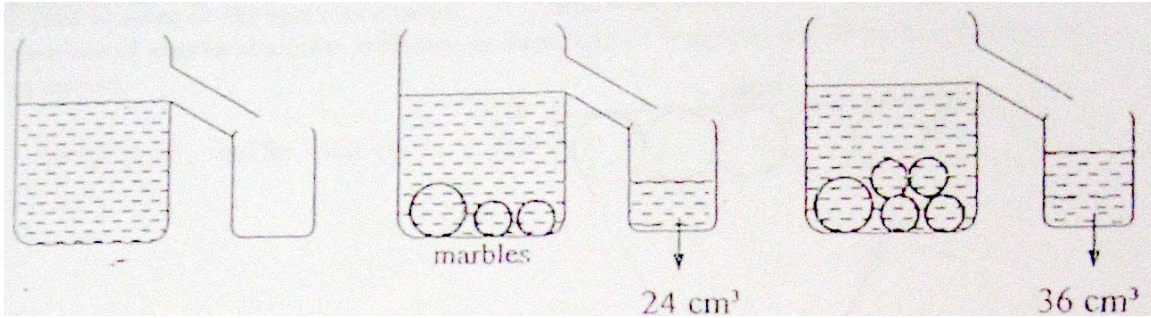
Ans: (a) _____ [3m]
Ans: (b) _____ [1m]

- 46) The figure below is made of a piece of wire. It consists of 4 semi-circles and a straight line. The radius of the largest semi-circle is 42cm. The diameter of the smallest semi-circle is 21 cm and the other 2 semi-circles are each of radius 21 cm. Take $\pi = \frac{22}{7}$, calculate the length of the wire.



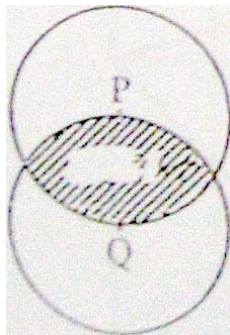
Ans: _____ [4m]

- 47) What is the ratio of the volume of one big marble to that of a small marble?



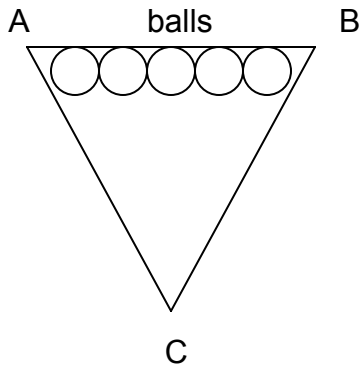
Ans: _____ [3m]

- 48) The figure below shows 2 circles of radius 7cm intersecting. Find the area of the whole figure if the shaded area is 48cm^2 . P and Q are the centres of the circles.
Take $\pi = \frac{22}{7}$.



Ans: _____ [3m]

- 49) ABC is a frame in the shape of an equilateral triangle. What is the maximum number of balls which can fit into the frame?



Ans: _____ [2m]

- 50) The total weight of three children, A, B and C is 106 kg. A is twice as heavy as B. C is heavier than B by 6 kg. How much heavier is A than C.

Ans: _____ [3m]