



新加坡福建会馆属下五校小六统一考试

道南 • 爱同 • 崇福 • 南侨 • 光华

SINGAPORE HOKKIEN HUAY KUAN

5-SCHOOL COMBINED

PRIMARY 6 PRELIMINARY EXAMINATION

TAO NAN • AI TONG • CHONGFU • NAN CHIAU • KONG HWA

2017

数学 MATHEMATICS
PAPER 1
BOOKLET A

Date: 22 August 2017

Total Time for Booklets A and B: 50 min

INSTRUCTIONS TO CANDIDATES

- ✓ Do not open this booklet until you are told to do so.
- ✓ Follow all instructions carefully.
- ✓ Answer all questions.
- ✓ Shade your answers in the Optical Answer Sheet (OAS) provided.
- ✓ The use of calculators is **NOT** allowed.

This booklet consists of 7 printed pages.

School : _____

Name : _____

Class : _____

TOTAL	20
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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) and shade your answer on the Optical Answer Sheet.
(20 marks)

- 1 What is the value of 3 hundreds, 7 tenths and 9 hundredths?
- (1) 300.79
 - (2) 300.709
 - (3) 307.9
 - (4) 370.09
- 2 Which is the greatest possible number that will become 25 000 when rounded off to the nearest thousand?
- (1) 24 500
 - (2) 24 999
 - (3) 25 499
 - (4) 25 900
- 3 Express 3.05 l in ml.
- (1) 305 ml
 - (2) 350 ml
 - (3) 3005 ml
 - (4) 3050 ml
-

- 4 The table below shows the number of cakes Mrs Tan sold from Friday to Sunday.

Day	Number of cakes sold in terms of y
Friday	$3y$
Saturday	$30 - y$
Sunday	$4y - 7$

What was the total number of cakes Mrs Tan sold from Friday to Sunday?

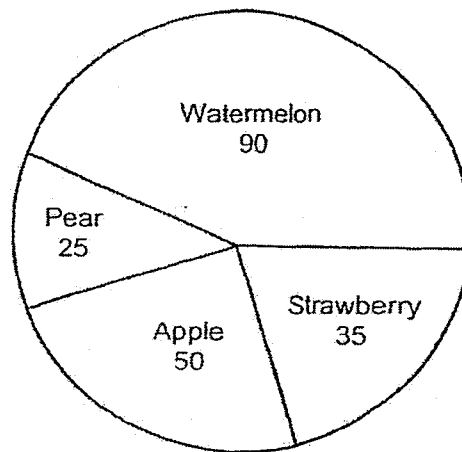
- (1) $8y + 23$
 - (2) $8y - 37$
 - (3) $6y + 23$
 - (4) $6y - 37$
- 5 How many three-quarters are there in 12?

- (1) $\frac{1}{16}$
- (2) $\frac{1}{9}$
- (3) 9
- (4) 16

- 6 A number when divided by 30 gives a quotient of 5 and a remainder of 8.
What is the number?

- (1) 142
- (2) 158
- (3) 190
- (4) 245

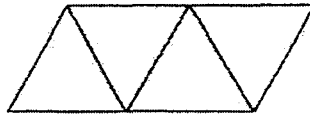
- 7 The pie chart shows the favourite fruits of a group of 200 students.
Which fruit was chosen by 25% of the students as their favourite fruit?



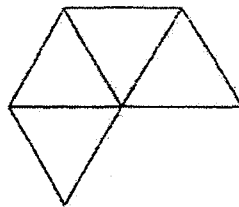
- (1) Apple
- (2) Pear
- (3) Strawberry
- (4) Watermelon

8 Which of the following is a net of a prism?

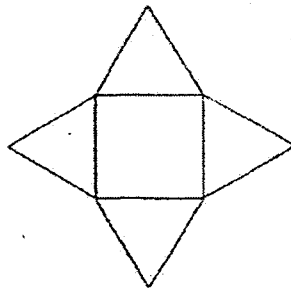
(1)



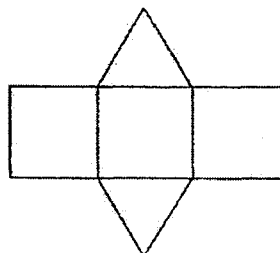
(2)



(3)



(4)



- 9 The ratio of Imran's age to Johan's age is 3 : 4. Imran is 24 years old. How old is Johan?

- (1) 18 years old
- (2) 25 years old
- (3) 28 years old
- (4) 32 years old

- 10 The sum of 4 numbers is 960. One of the numbers is 150. What is the average of the other 3 numbers?

- (1) 240
- (2) 270
- (3) 320
- (4) 810

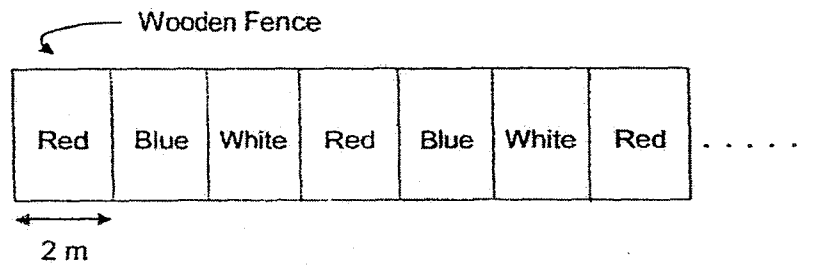
- 11 The table below shows a baby's mass on the first day of each month from March to July.

Date	Mass (kg)
1 st March	2.6
1 st April	3.5
1 st May	5.1
1 st June	6.2
1 st July	7.4

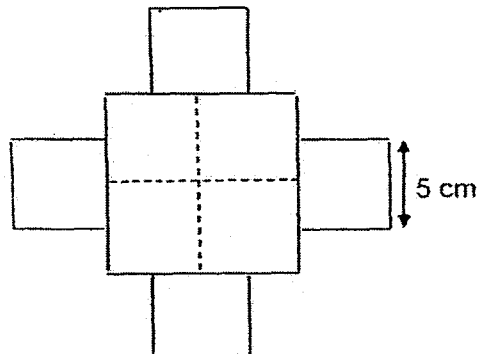
In which month did the baby's mass increase the least?

- (1) March
- (2) April
- (3) May
- (4) June

- 12 A wooden fence 100 m long is divided into equal segments and painted red, blue and white. Each segment is 2 m long. The segments follow a repeated pattern. How many segments of the wooden fence are painted red?

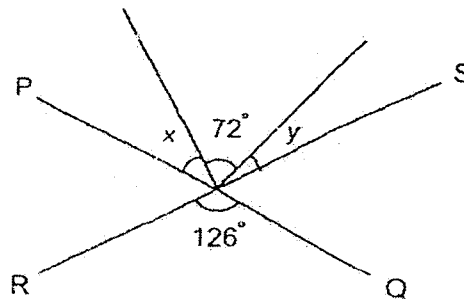


- (1) 16
 (2) 17
 (3) 22
 (4) 34
- 13 The figure is formed by putting 8 identical pieces of 5-cm square papers together without overlapping. Find the perimeter of the figure.

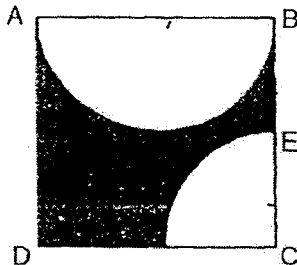


- (1) 200 cm
 (2) 160 cm
 (3) 80 cm
 (4) 40 cm

- 14 In the figure, PQ and RS are straight lines. $\angle x$ is twice of $\angle y$. Find the size of $\angle x$.



- (1) 18°
 (2) 27°
 (3) 36°
 (4) 54°
- 15 ABCD is a square of area 64 cm^2 . A semicircle and a quadrant lie within the square. $BE = EC$. Find the area of the shaded part.



- (1) $(52\pi) \text{ cm}^2$
 (2) $(64 - 6\pi) \text{ cm}^2$
 (3) $(64 - 12\pi) \text{ cm}^2$
 (4) $(64 - 16\pi) \text{ cm}^2$

2017

数学 MATHEMATICS
PAPER 1
BOOKLET B

Date: 22 August 2017

Total Time for Booklets A and B: 50 min

INSTRUCTIONS TO CANDIDATES

- ✓ Do not open this booklet until you are told to do so.
- ✓ Follow all instructions carefully.
- ✓ Answer all questions.
- ✓ The use of calculators is **NOT** allowed.

This booklet consists of 7 printed pages.

School : _____
Name : _____
Class : _____

TOTAL	20
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Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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write in
this space

16 Divide 12.36 by 4.

Ans : _____

17 Write down all the common factors of 15 and 36.

Ans : _____

18 Andy, Bill and Cody shared 160 Pokemon cards in the ratio 4 : 3 : 1.
How many Pokemon cards did Cody have?

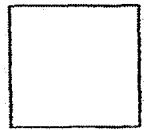
Ans : _____

- 19 Find the value of $\frac{2}{3} \div \frac{5}{9}$.

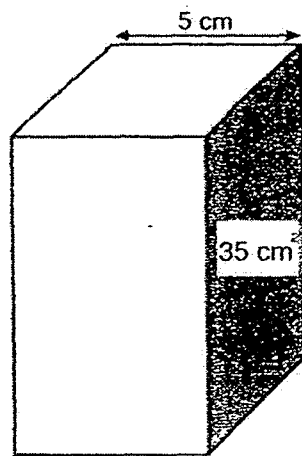
Express your answer as a mixed number in its simplest form.

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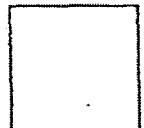
Ans : _____



- 20 Find the volume of the cuboid below.

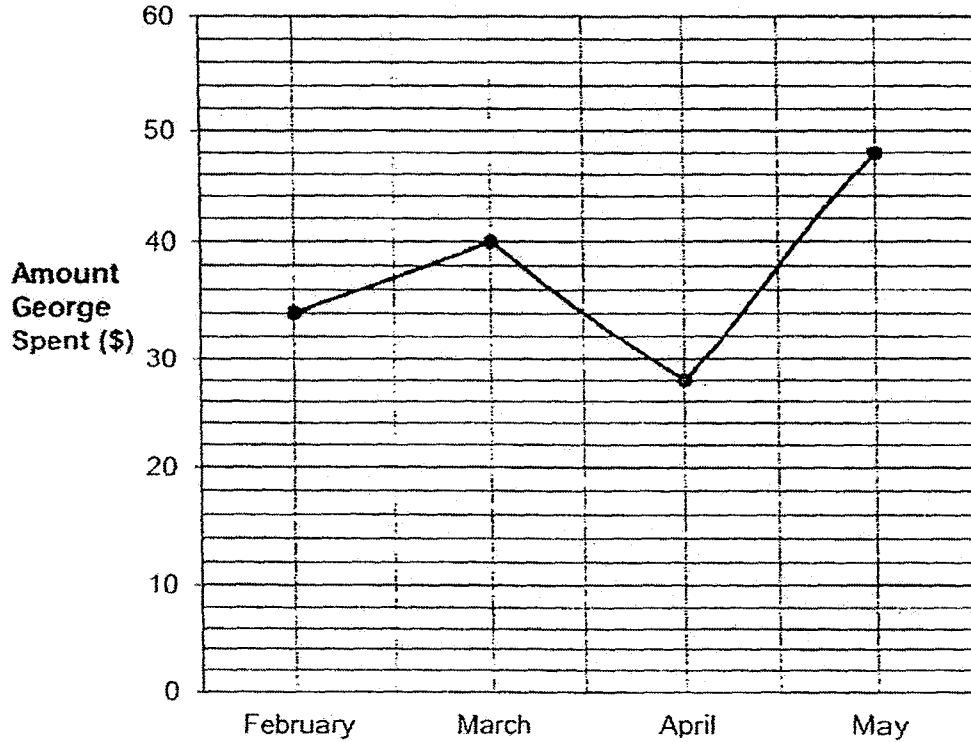


Ans : _____ cm³



Use the information below to answer questions 21 and 22.

George received \$80 for his pocket money each month. The line graph shows the amount of pocket money he spent each month. He saved the rest of his pocket money.



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21 In which month did George spend more than half his pocket money?

Ans : _____

22 How much did George save in February?

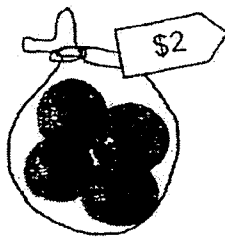
Ans : \$ _____

- 23 There are 45 eggs in a tray. 20% of them are cracked. How many eggs in the tray are not cracked?

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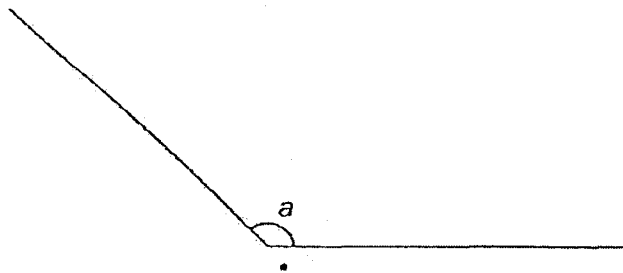
Ans : _____

- 24 Oranges are only sold in bags of 4 oranges. Each bag is sold at \$2. Mrs Lim has \$11. How many oranges can she buy at most?



Ans : _____

- 25 Measure and write down the size of $\angle a$ in the figure.



Ans : _____

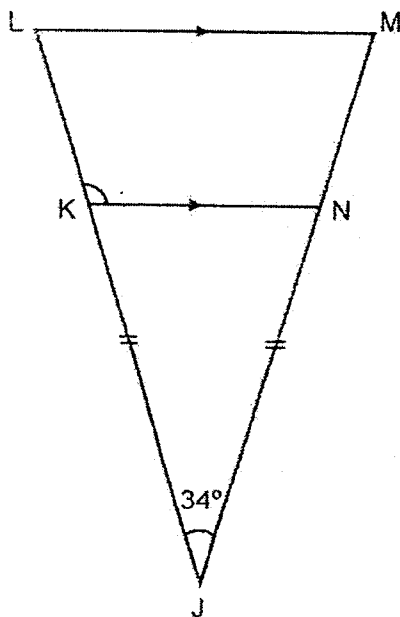
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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this space

- 26 Kate is $2n$ years old. Kate's father is 4 times as old as she. Kate's mother is 5 years younger than Kate's father. How old was Kate's mother when Kate was born? Express your answer in terms of n in its simplest form.

Ans : _____ years old

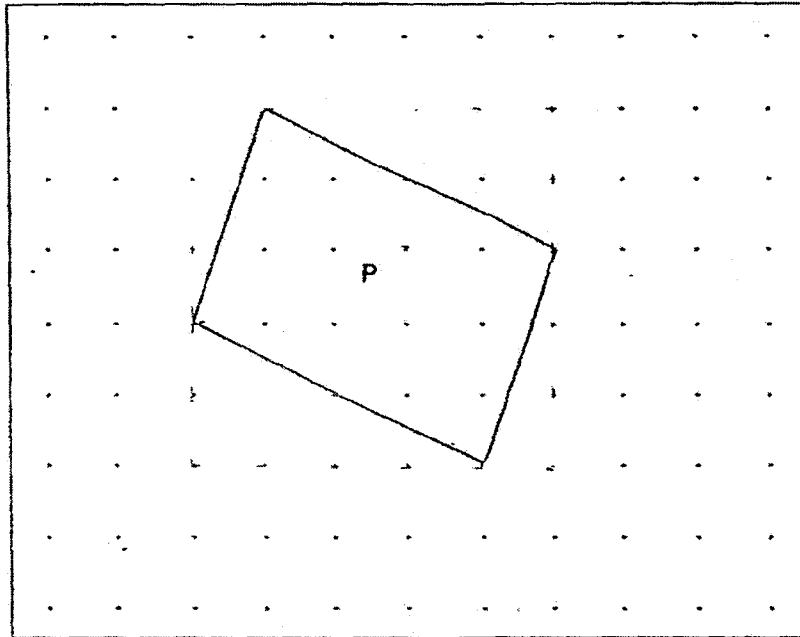
- 27 In the figure, JLM is an isosceles triangle with $JL = JM$ and KLMN is a trapezium. $LM \parallel KN$ and $\angle KJN = 34^\circ$. Find $\angle NKL$.



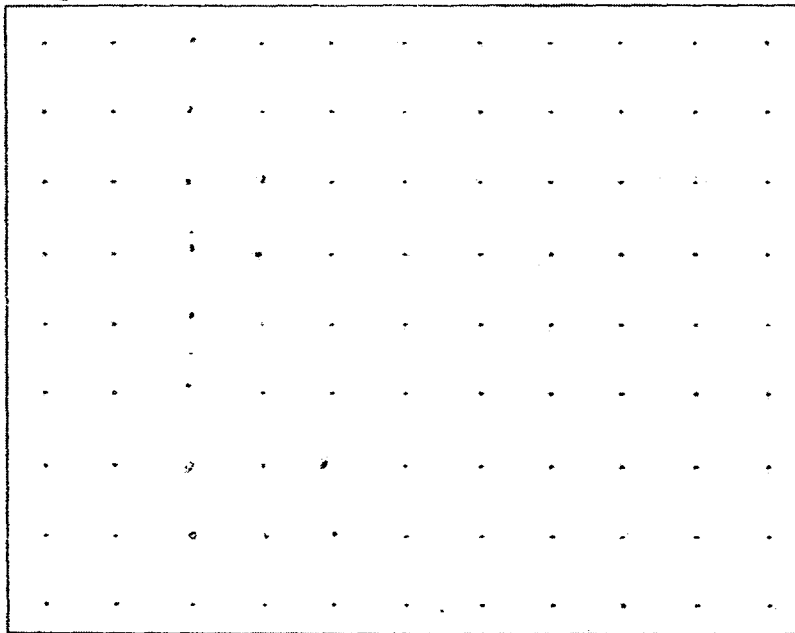
Ans : _____

- 28 A parallelogram P is drawn by joining dots on the square grid below with four straight lines.

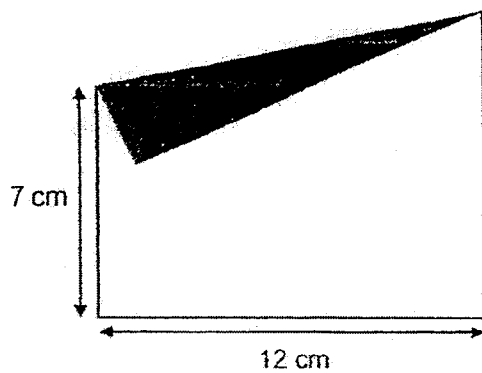
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By joining dots with straight lines in the square grid below, draw a triangle with half the area of P. Label the triangle T.



- 29 A rectangular piece of paper is folded as shown in the figure below. The length of the rectangle is 12 cm. The ratio of the length to the breadth of the rectangle is 4 : 3. Find the area of the shaded triangle.



Ans : _____ cm²

- 30 Ming Teck gave 12 stickers to his sister and $\frac{1}{5}$ of the remainder to his brother. He was then left with $\frac{2}{3}$ of his stickers. How many stickers did he have at first?

Ans : _____

End of Paper 1

2017

MATHEMATICS

PAPER 2

Date : 22 August 2017
Total Time : 1 h 40 min

INSTRUCTIONS TO CANDIDATES

- ✓ Do not open this booklet until you are told to do so.
- ✓ Follow all instructions carefully.
- ✓ Answer all questions.
- ✓ Write your answers in this booklet
- ✓ The use of an approved calculator is expected, where appropriate.

This booklet consists of 15 printed pages.

School : _____
Name : _____
Class : _____

TOTAL	60
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Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

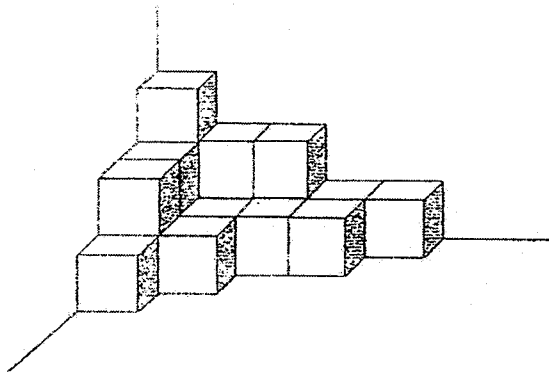
(10 marks)

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- 1 Sara put an amount of money in a bank which pays 2% annual interest. After one year, she received \$25 as interest. She did not withdraw any money from the bank. Find the total amount of money Sara had in the bank after one year.

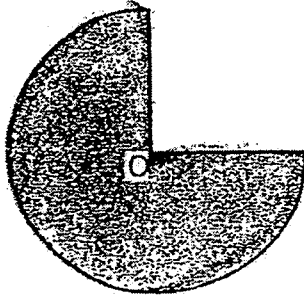
Ans: \$ _____

- 2 The solid below is made up of 1-cm cubes. How many more 1-cm cubes must be added to the solid to make it a cuboid with sides of 5 cm by 4 cm by 3 cm?



Ans: _____

- 3 The figure shows a three-quarter circle with centre O and radius 60 cm. Using the calculator value of π , find the perimeter of the figure. Give your answer correct to 1 decimal place.



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Ans: _____ cm

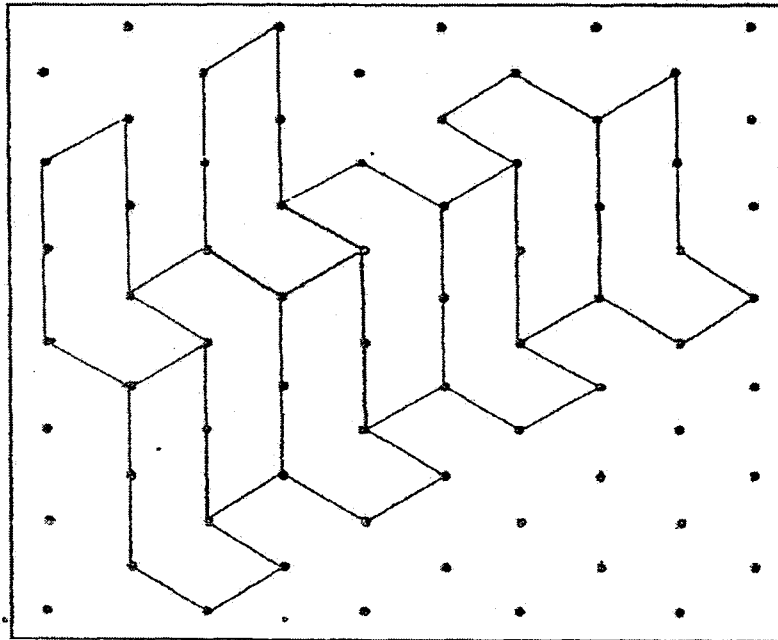
- 4 Square A has an area of 256 cm^2 . Square B has an area 68 cm^2 more than Square A. What is the ratio of the length of Square A to the length of Square B? Give your answer in its simplest form.

Ans: _____

5 Part of a tessellation is shown below.

(a) Shade one unit shape.

(b) Extend the tessellation by drawing one more unit shape within the grid.



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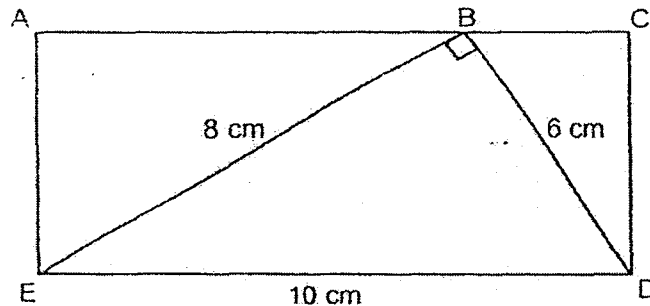
For questions 6 to 18, show your working clearly in the space provided for each question and write the answers in the spaces provided. The number of marks available is shown in the brackets [] at the end of each question or part-question. (50 marks)

Do not write in this space.

- 6 A list of 13 numbers has an average of 260. When two numbers are removed from the list, the average of the remaining numbers is 231. The difference between the two numbers that are removed is 1. What are the two numbers that have been removed?

Ans: _____ and _____ [3]

- 7 ACDE is a rectangle and BDE is a right-angled triangle. ED = 10 cm, BD = 6 cm and BE = 8 cm. Find the length of CD.

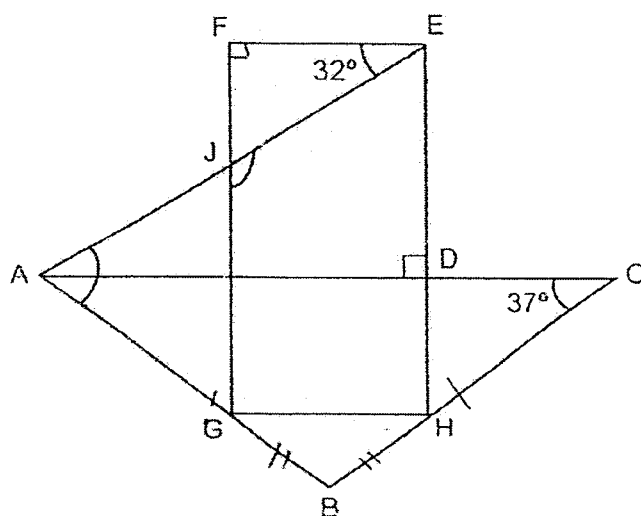


Ans: _____ [3]

- 8 In the figure, EFGH is a rectangle. ABC is an isosceles triangle and ADE is a right-angled triangle. $AB = BC$ and $BG = BH$. $\angle ACB = 37^\circ$ and $\angle FEJ = 32^\circ$.

Find

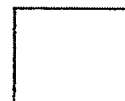
- (a) $\angle EJG$
(b) $\angle JAG$



Do not write
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Ans: (a) _____ [1]

(b) _____ [2]



- 9 Debbie and Nick bought the same number of identical books at a bookstore. Debbie paid \$165 for all the books she bought. Nick was given a 20% discount. With the discount, he could buy another 3 such books at the original price. What was the price of each book after discount?

Do not write
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Ans: _____ [3]

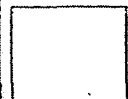


- 10 Mr Sim and Mr Low started driving from Town X to Town Y at the same time along the route shown below. Both did not change their speeds throughout. Mr Sim's average speed was 15 km/h slower than Mr Low's. After 20 min, Mr Low reached Town Y but Mr Sim had only covered $\frac{4}{5}$ of the distance covered by Mr Low. Find Mr Sim's average speed in km/h.

Do not write
in this space



Ans: _____ [4]



- 11 Packets of biscuits were divided equally among 21 families at a charity fair. 7 families gave away $\frac{3}{4}$ of their share to the other families. As a result, the other families received 12 more packets of biscuits each. How many packets of biscuits were there at first?

Do not write
in this space

Ans: _____ [4]



- 12 In a kindergarten, $\frac{1}{3}$ of the boys and $\frac{7}{11}$ of the girls walk to school.
 $\frac{1}{2}$ of the children in the kindergarten walk to school. There are 6 more girls than boys in the kindergarten. How many children are there in the kindergarten altogether?

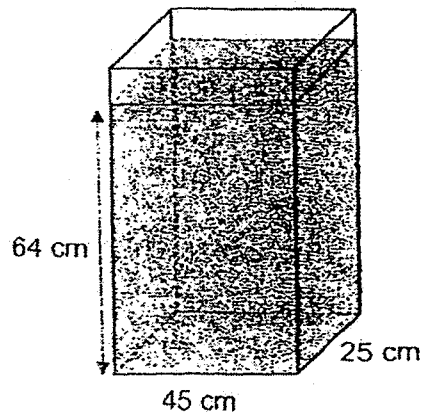
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Ans: _____ [4]

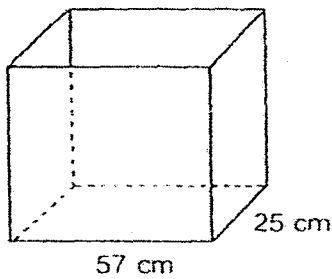


- 13 Tank A is filled with water to a height of 64 cm. Tank B and Tank C are empty at first. Some water in Tank A is then poured into Tank B and Tank C until the water level in each of the three tanks has the same height. Find the volume of water in Tank B in the end.

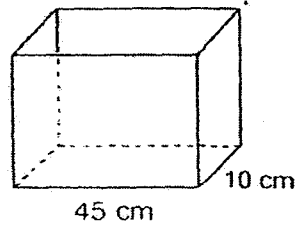
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Tank A



Tank B



Tank C

Ans: _____ [4]

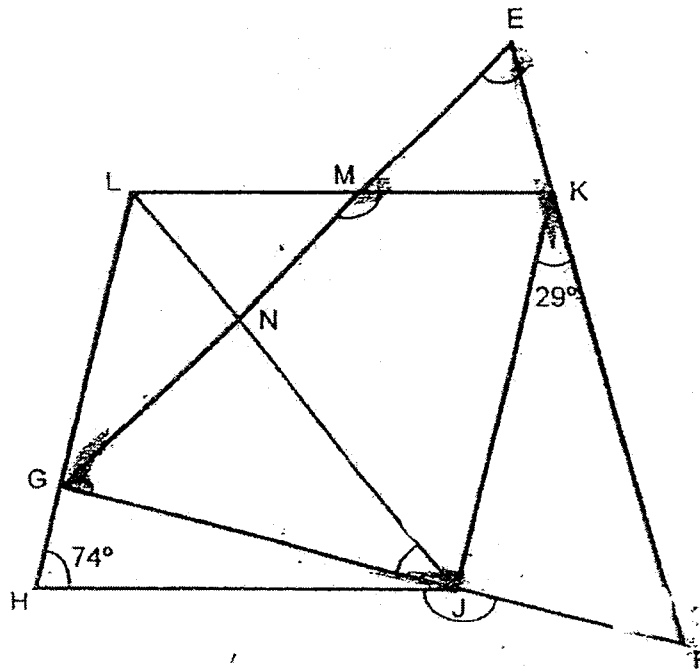


- 14 In the figure, EFG is an equilateral triangle and HJKL is a rhombus. $\angle LHJ = 74^\circ$ and $\angle JKF = 29^\circ$. LNJ is a straight line.

Do not write
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Find

- (a) $\angle NMK$
(b) $\angle HJF$



Ans : (a) _____ [2]

(b) _____ [2]



- 15 Sheryl had \$118. This amount of money was just enough to buy 4 large T-shirts and 3 small T-shirts. Sheryl bought 3 large T-shirts and 4 small T-shirts instead. She had \$1.50 left. Find the cost of one large T-shirt.

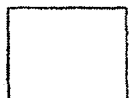
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Ans: _____ [4]

- 16 Ali had \$200 more than Kai Cong at first. After Ali spent \$340 and Kai Cong received \$120 from his father, Kai Cong had 5 times as much money as Ali. What was the total amount of money they had at first?

Do not write
in this space

Ans: _____ [4]



- 17 A club consists of swimmers and runners. There are 108 boys. The number of boys is 3 times the number of girls. The ratio of the number of swimmers to the number of runners is $7 : 2\frac{3}{8}$ of the runners are girls. How many swimmers are boys?

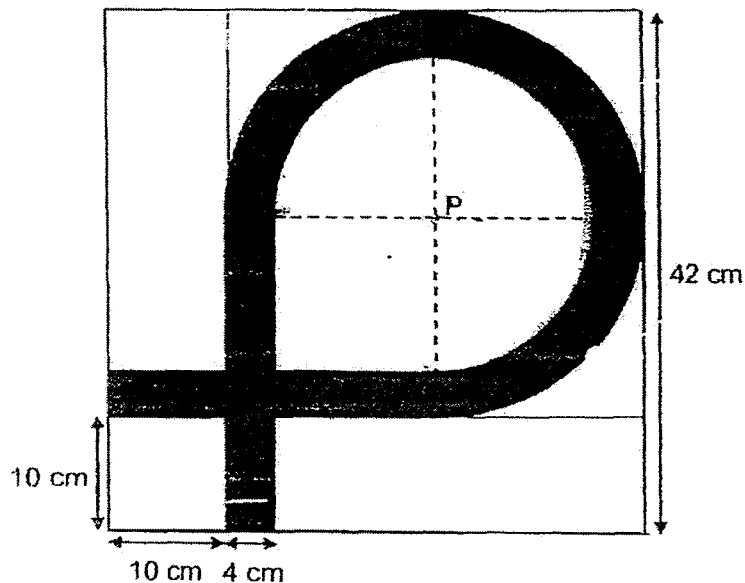
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Ans: _____ [5]

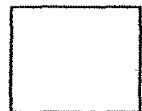


- 18 A square cardboard of side 42 cm has a design formed by a 4-cm wide shaded strip. The outline of the design is made up of quarter circles with centre P and straight lines. All the straight lines meet at right angles. Find the area of the shaded part. (Take $\pi = 3.14$)

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Ans: _____ [5]



END OF PAPER 2

ANSWER KEY

YEAR : 2017
LEVEL : PRIMARY 6
SUBJECT : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

Paper 1

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

Q16 3.09

Q17 1 and 3

Q18 20

Q19 $1\frac{1}{5}$

Q20 175 cm^3

Q21 May

Q22 \$46

Q23 36 eggs not cracked

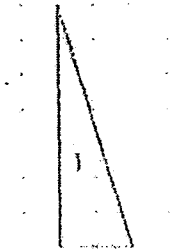
Q24 20 oranges

Q25 137°

Q26 Kate $\rightarrow 2n$
Kate's father $\rightarrow 2n \times 4 = 8n$
Kate's mother $\rightarrow 8n - 5$
 $(8n - 5) - 2n \Rightarrow \underline{(6n - 5) \text{ years old}}$

Q27 $180^\circ - 34^\circ = 146^\circ$
 $146^\circ \div 2 = 73^\circ$
 $180^\circ - 73^\circ \Rightarrow \underline{107^\circ}$

Q28



Q29 $L : B (u)$
 $= 4 : 3$
 $4u = 12$
 $u = 3$
 $3u = 9$
 $9 - 7 = 2$
 $2 \times 12 \times \frac{1}{2} \Rightarrow \underline{12 \text{ cm}^2}$

Q30 72 stickers

Paper 2

Q1 $2\% \rightarrow 25$
 $102\% \Rightarrow \underline{\$1275}$

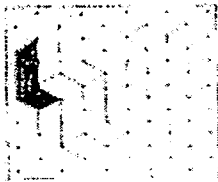
Q2 $5 \times 4 \times 3 = 60$
 $60 \div (1 \times 1 \times 1) = 60$
 $60 - 18 \Rightarrow \underline{42 \text{ cubes}}$

Q3 Radius = 60
 $P = \pi \times d$
 $60 \times 2 = 120$
 $(120 \times \pi \times \frac{3}{4}) + 60 + 60$
 $\approx \underline{402.7 \text{ cm}}$

Q4 $\sqrt{256} = 16$ (side of A)
 $256 + 68 = 324$
 $\sqrt{324} = 18$ (side of B)

	A	:	B
=	16	:	18
=	<u>8</u>	:	<u>9</u>

Q5 (a & b)



Q6 $13 \times 260 = 3380$
 $13 - 2 = 11$
 $11 \times 231 = 2541$
 $3380 - 2541 = 839$
 $839 - 1 = 838$
 $838 \div 2 \rightarrow 419$
 $419 + 1 \rightarrow 420$
 $\Rightarrow \underline{419 \text{ and } 420}$

Q7 $8 \times 6 \times \frac{1}{2} = 24$ (area of $\triangle$)
 $24 \times 2 = 48$
 $48 \div 10 \Rightarrow \underline{4.8 \text{ cm}}$

Q8 (a) $180^\circ - 90^\circ - 32^\circ \rightarrow 58^\circ$
 $180^\circ - 58^\circ \Rightarrow \underline{122^\circ}$

(b) $90^\circ - 32^\circ = 58^\circ$
 $180^\circ - 58^\circ - 90^\circ = 32^\circ$
 $32^\circ + 37^\circ \Rightarrow \underline{69^\circ}$

Q9 $100\% - 20\% = 80\%$
 $\$165 \times 20\% = \33
 $\$33 \text{ can buy 3 more books}$
 $\$33 \div 3 = \11 (1 book)
 $\$11 \times 80\% \Rightarrow \underline{\$8.80}$

Q10 $15\text{km/h} \div 3 = 5\text{km} \rightarrow 20\text{min}$
 $5 - 4 = 1$
 $5 \times 5 = 25$
 $25 \times \frac{4}{5} = 20$
 Mr Sim : $20\text{km} \rightarrow 20\text{min}$
 $20 \times 3 \Rightarrow \underline{60\text{km/h}}$

Q11 $21 - 7 = 14$
 $14 \times 12 = 168$
 $168 \div 7 = 24$
 $24 \div 3 = 8$
 $8 \times 4 = 32$
 $32 \times 21 \Rightarrow \underline{672 \text{ packets}}$

Q12 $G = B + 6$
 $\frac{1}{3}B + \frac{7}{11}G = \frac{1}{2}(B + G)$
 $G = B + 6$
 $\frac{1}{3}B + \frac{7}{11}(B + 6) = \frac{1}{2}B + \frac{1}{2}(B + 6)$
 $\frac{1}{3}B + \frac{7}{11}B + 3\frac{9}{11} = \frac{1}{2}B + \frac{1}{2}B + 3$
 $3\frac{9}{11} - 3 = \frac{1}{2}B + \frac{1}{2}B - \frac{1}{3}B - \frac{7}{11}B$
 $\frac{9}{11} = \frac{1}{33}B$
 $27 \rightarrow B$
 $27 + 27 + 6 \Rightarrow \underline{60 \text{ children}}$

Q13 $64 \times 45 \times 25 = 72000 \text{ (water)}$
 $45 \times 25 = 1125$
 $57 \times 25 = 1425$
 $45 \times 10 = 450$
 $1125 + 1425 + 450 = 3000$
 $\frac{72000}{3000} \rightarrow 24$
 $24 \times 57 \times 25 \Rightarrow \underline{34200 \text{ cm}^3}$

Q14 (a) $180^\circ \div 3 = 60^\circ$
 $180^\circ - 74^\circ - 29^\circ = 77^\circ$
 $180^\circ - 77^\circ - 60^\circ = 43^\circ$
 $180^\circ - 43^\circ \Rightarrow \underline{137^\circ}$

(b) $180^\circ - 29^\circ - 60^\circ = 91^\circ$
 $180^\circ - 74^\circ = 106^\circ$
 $360^\circ - 106^\circ - 91^\circ \Rightarrow \underline{163^\circ}$

Q15 L = large shirt
U = small shirt
 $\$118 \rightarrow 4L + 3U$
 $118 - 1.50 = 116.50$
 $\$116.50 \rightarrow 3L + 4U$
 $\$118 \rightarrow 4L + 3U$
 $\$116.50 \rightarrow 3L + 4U$
 $\$118 - 3U \rightarrow 4L$
 $\$116.50 \rightarrow 3L + 4U$
 $\$29.50 - \frac{3}{4}U \rightarrow 1L$
 $\$116.50 \rightarrow 3(\$29.50 - \frac{3}{4}U) + 4U$
 $\$116.50 \rightarrow \$88.50 - \frac{9}{4}U + 4U$
 $\$116.50 - \$88.50 \rightarrow 4U - \frac{9}{4}U$
 $\$28 \rightarrow \frac{7}{4}U$
 $\$16 \rightarrow U$
 $16 \times 3 = 48$
 $118 - 48 = 70$
 $70 \div 4 \Rightarrow \underline{\$17.50}$

Q16 $340 - 200 = 140$
 $140 + 120 = 260$
 $5 - 1 = 4$
 $4u = 260$
 $u = 65$
 $6u = 390$
 $390 + 340 - 120 \Rightarrow \underline{\$610}$

Q17 (Boys) $108 \div 3 = 36$ (Girls)
 $36 \times 4 = 144$ (total)
 $7 + 2 = 9$
 $144 \div 9 = 16$
 $16 \times 2 = 32$ (R)
 $16 \times 7 = 112$ (S)
 $32 \times \frac{3}{8} = 12$ (Girl runners)
 $36 - 12 = 24$
 $112 - 24 \Rightarrow \underline{88 \text{ boy swimmers}}$

Q18 (1) $10 \times 10 = 100$

(2) $42 - 10 - 4 = 28$
 $28 \times 10 = 280$

(3) $42 - 4 - 10 = 28$
 $28 \times 10 = 280$

(4) $A = \pi \times r \times r$
 $28 \div 4 = 7$
 $7 \times 2 = 14$
 $16 \times 16 \times 3.14 = 803.84$
 $32 \times 32 = 1024$
 $1024 - 803.84 = 220.16$
 $220.16 \div 4 \times 3 = 165.12$

(5) $28 - 4 = 24$
 $24 \div 2 = 12$
 $12 \times 12 = 144$

(6) $28 - 4 = 24$
 $24 \div 2 = 12$
 $12 \times 12 \times 3.14 \times \frac{3}{4} = 339.12$

$(1) + (2) + (3) + (4) + (5) + (6)$
 $100 + 280 + 280 + 165.12 + 144 + 339.12 = 1308.24$

$42 \times 42 = 1764$
 $1764 - 1308.24 \Rightarrow \underline{455.76 \text{ cm}^2}$