MARIS STELLA HIGH SCHOOL (PRIMARY)
PRELIMINARY EXAMINATION
PRIMARY 6 MATHEMATICS
23 AUGUST 2019
PAPER 1

(BOOKLET A)

15 questions
20 marks
Total time for Booklets A and B: 1 hour

NAME : _____ ( )

CLASS : PRIMARY 6 _____

INSTRUCTIONS TO CANDIDATES

1. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
2. FOLLOW ALL INSTRUCTIONS CAREFULLY.
3. ANSWER ALL QUESTIONS.
4. SHADE YOUR ANSWERS IN THE OPTICAL ANSWER SHEET (OAS) PROVIDED.
5. YOU ARE NOT ALLOWED TO USE A CALCULATOR.

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 and shade your answer (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet. (20 marks)

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1. What is the value of the digit 6 in 802 639?

   (1) 60 ones
   (2) 60 tens
   (3) 60 hundreds
   (4) 60 thousands

2. Which digit in 36.54 is in the tenths place?

   (1) 5
   (2) 6
   (3) 3
   (4) 4

3. 408 670 is 10 000 more than _____.

   (1) 308 670
   (2) 398 670
   (3) 418 670
   (4) 418 670

4. Express $1\frac{2}{8}$ as a decimal.

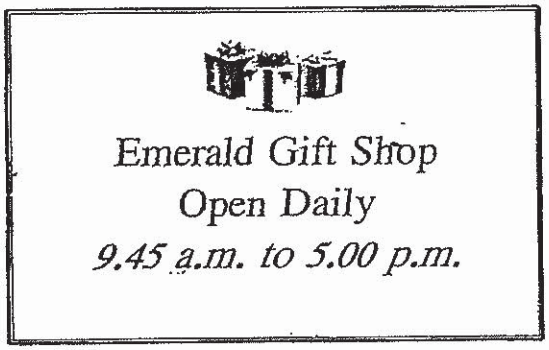
   (1) 1.14
   (2) 1.25
   (3) 1.28
   (4) 1.82

5. Express 3040 cm in m.

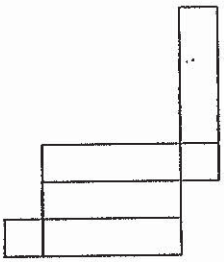
(1) 3.4 m
(2) 3.04 m
(3) 30.04 m
(4) 30.4 m

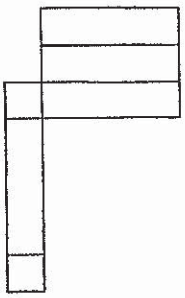
6. The opening hours of a shop are shown below. How long is the shop open each day?

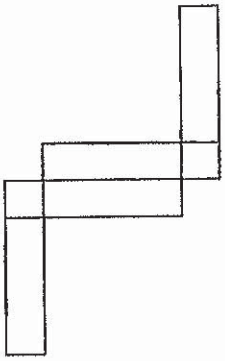
(1) 7 h 15 min
(2) 7 h 45 min
(3) 8 h 15 min
(4) 8 h 45 min

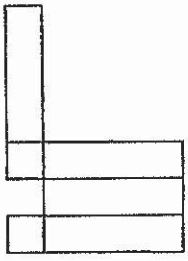


7. The figures below are made up of 4 rectangles and 2 squares. Which one of them **cannot** be folded into a cuboid?

(1)


(2)


(3)


(4)


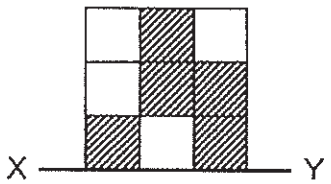
8. In a basket of 40 plastic balls, 15 of them are blue and the rest are red.
What is the ratio of the number of blue plastic balls to the number of red plastic balls?

(1) 3 : 5
(2) 5 : 3
(3) 3 : 8
(4) 5 : 8

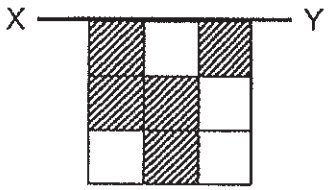
9. Which of the following fractions is the largest?

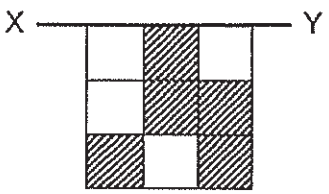
(1) $\frac{1}{3}$
(2) $\frac{3}{7}$
(3) $\frac{5}{9}$
(4) $\frac{2}{5}$

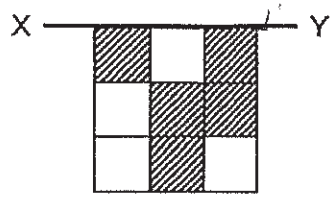
10. The top half of a symmetric figure is shown below.

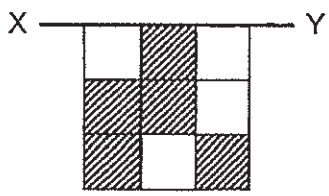


XY is the line of symmetry. Which one of the following completes the symmetric figure?

(1) 

(2) 

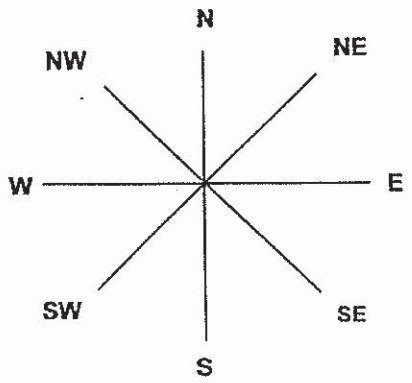
(3) 

(4) 

11. Charles bought b packets of sweets. Each packet contains 7 sweets. If she gave away 2 sweets from each packet, how many sweets does Charles have left in terms of b?

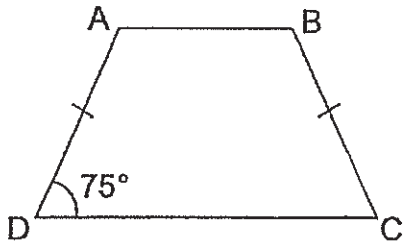
(1) $5b$
(2) $7b$
(3) $b + 5$
(4) $7b - 2$

12. After turning 135° in the clockwise-direction, Jack faced West. From his original direction, where will he face if he turned a 270° the anti-clockwise- direction instead?



(1) North-east
(2) North-west
(3) South-east
(4) South-west

13. ABCD is a trapezium not drawn to scale.

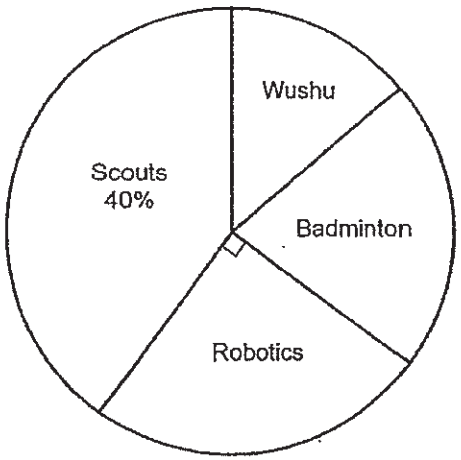


What are the sizes of the other three angles in the trapezium?

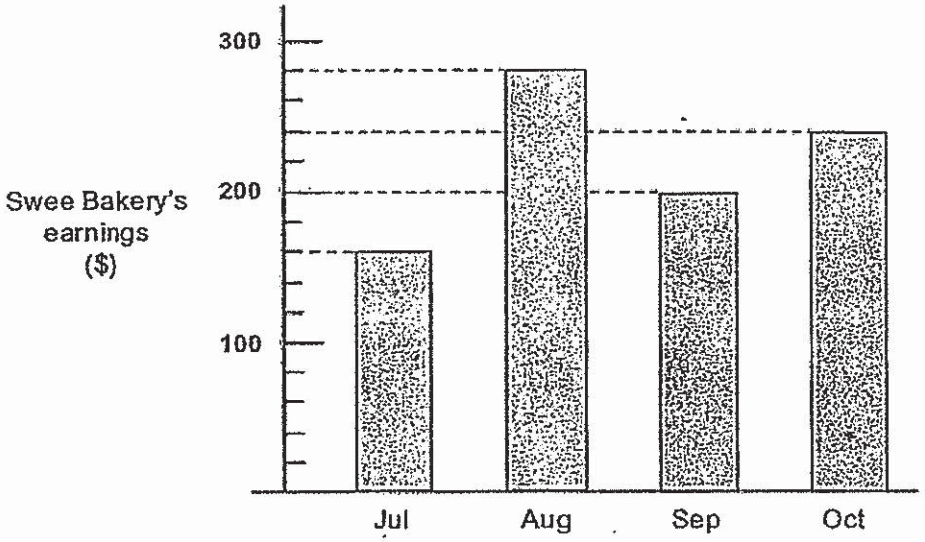
	∠ABC	∠BCD	∠DAB
(1)	75°	75°	105°
(2)	75°	105°	75°
(3)	105°	75°	105°
(4)	105°	105°	75°

14. The pie chart shows the CCAs of 200 students in a school. The ratio of the number of students in Wushu to the number of students in Badminton is 2 : 3. What percentage of the students are in Badminton?

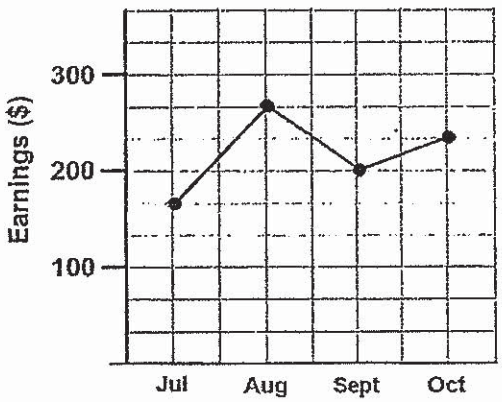
(1) 14%
(2) 21%
(3) 35%
(4) 65%



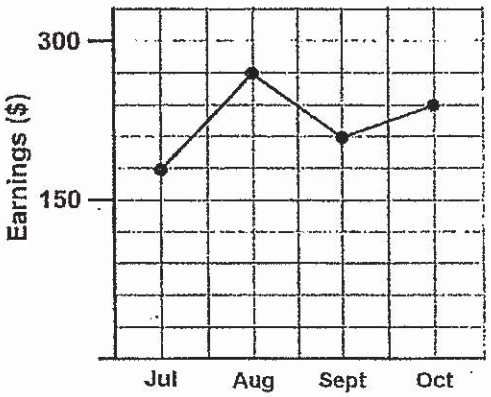
15. The bar graph below shows how much Swee Bakery earned from the sales of their birthday cakes from July to October last year. Which of the following line graphs shows the correct representation of Swee Bakery's earnings for last year?



(1)



(2)



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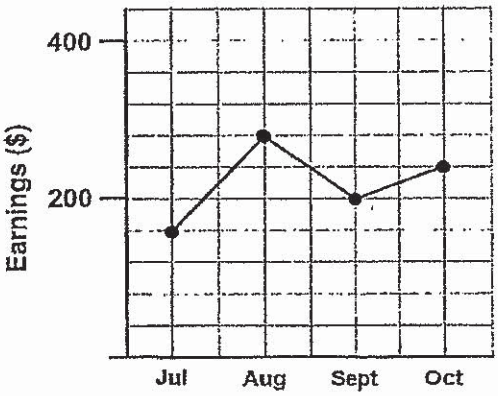

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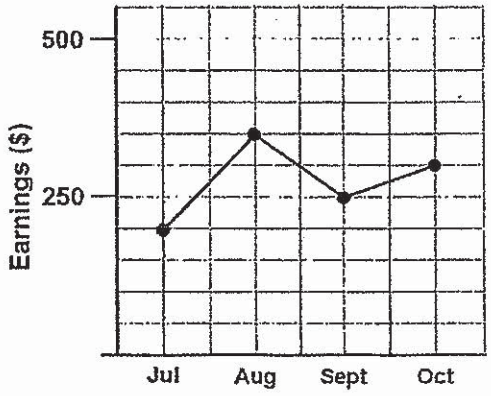

END OF BOOKLET A
GO TO BOOKLET B

MARIS STELLA HIGH SCHOOL (PRIMARY)
PRELIMINARY EXAMINATION
PRIMARY 6 MATHEMATICS
23 AUGUST 2019
PAPER 1
(BOOKLET B)

15 questions
25 marks
Total time for Booklets A and B: 1 hour

NAME : _____ ( )

CLASS : PRIMARY 6 _____

INSTRUCTIONS TO CANDIDATES

1. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
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4. WRITE YOUR ANSWERS IN THIS BOOKLET.
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MARKS OBTAINED FOR		
PAPER 1 (BOOKLET A)	/ 20	Parent's Signature:
PAPER 1 (BOOKLET B)	/ 25	_____
TOTAL	/ 45	Date: _____

Questions 16 to 20 carry 1 mark each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answer in the units stated. (5 marks)

Do not write in this space.

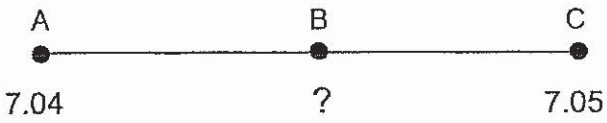
16. Find the value of 10 000 – 706.

Answer : _____

17. Find the value of $\frac{2}{15} \div 6$.
Give your answer in its simplest form.

Answer : _____

18. In the number line below, AB = BC. What decimal is represented by B?

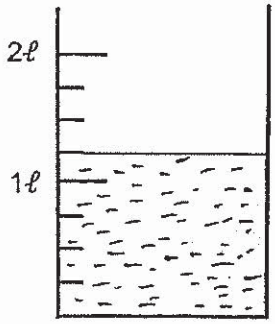


Answer : _____

SCORE

(Go on to the next page)

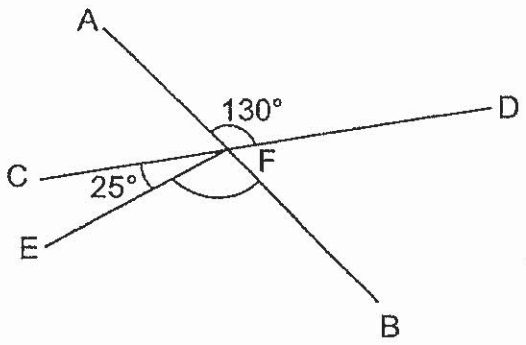
19. How much water is there in the container?



Answer : _____ mℓ

Do not write in this space.

20. AB and CD are straight lines. Find ∠EFB.



Answer : _____ °

SCORE

(Go on to the next page)

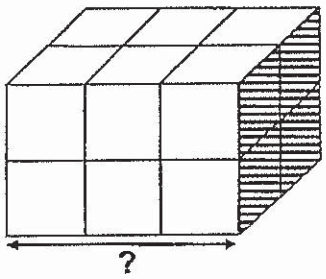
Questions 21 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answer in the units stated. (20 marks)

Do not write in this space.

21. Roy had some money in his wallet. He spent $\frac{3}{4}$ of his money on 3 mangoes and 6 pears. A mango cost thrice as much as a pear. How many pears could Roy buy with the rest of his money?

Answer : _____

22. 12 identical small cubes are joined together to form a cuboid shown below. The shaded face of the cuboid is 16 cm². Find the length of the cuboid.



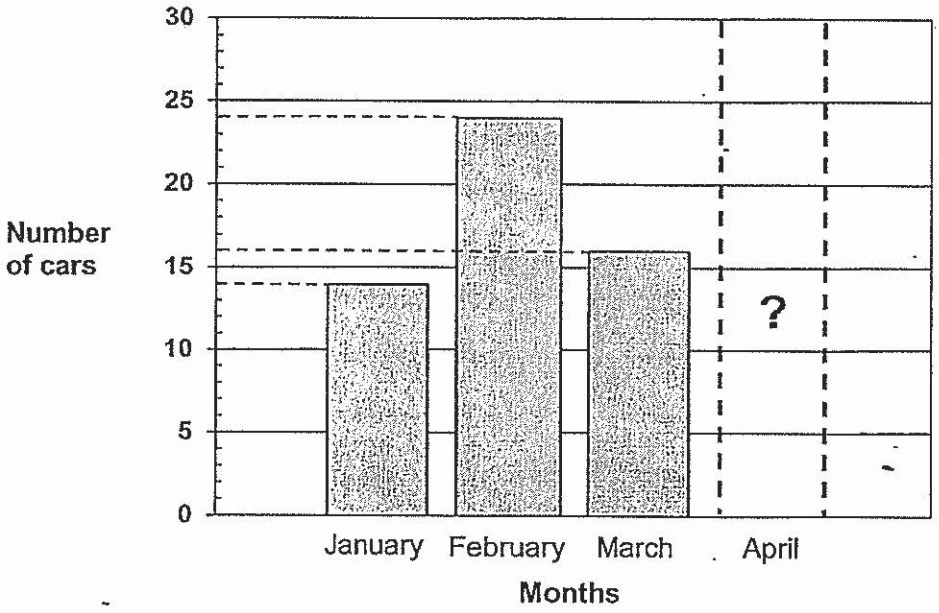
Answer : _____ cm

SCORE

(Go on to the next page)

23. The bar graph shows the number of cars sold by a car dealer in 4 months. The bar that shows the number of cars sold in April has not been drawn.

Do not write in this space.



The number of cars sold in February was 30% of the total number of cars sold in the 4 months. Find the number of cars sold in April.

Answer : _____

24. The table below shows the marks Zack scored for his first three Mathematics tests. He wants his average score to be 72 marks. How many marks must he score for the 4th test?

Test	1	2	3	4
Score	70	68	72	?

Answer : _____

SCORE

(Go on to the next page)

Do not write in this space.

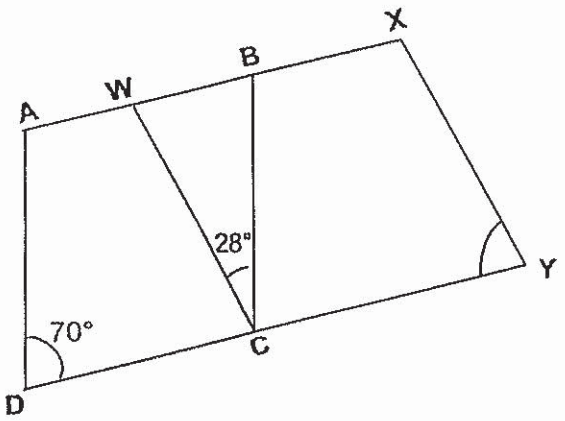
25. The table shows the time taken by **4** runners to complete 50 metres.

Name of runner	Time (in seconds)
Ali	40.8 s
Ben	29.5 s
Cathy	29.2 s
Doris	29.7 s

Each statement below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) in the correct column.

	True	False	Not possible to tell
a) Doris ran faster than Ben.			
b) Ali took 81.6 s to run 100 m.			
c) The average speed of the 4 runners is faster than Ali's speed.			

26. In the figure below, AX and DY are straight lines. ABCD and WXYC are parallelograms. Find ∠XYC.



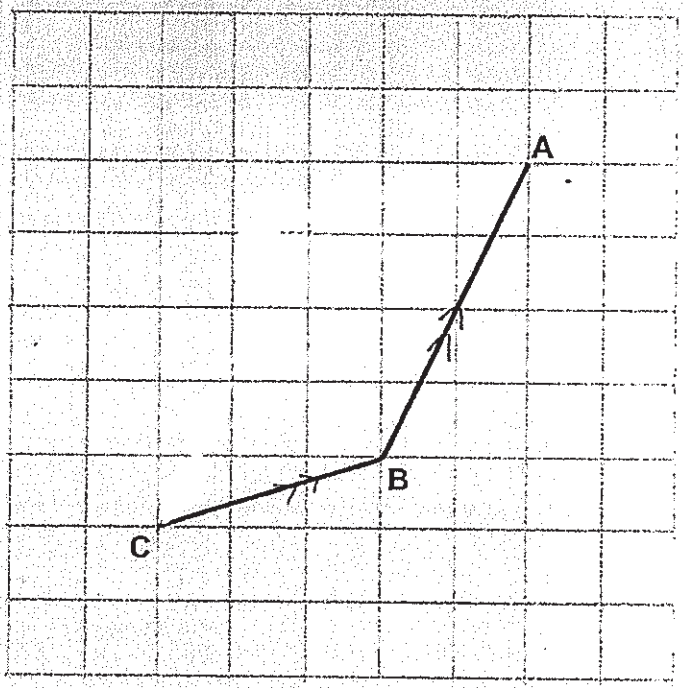
Answer : _____ °

SCORE

(Go on to the next page)

Do not write in this space.

27. (a) Complete the parallelogram ABCD in the grid below.



(b) Measure and write down the size of ∠ABC.

Ans : _____ °

28. Molly walked to school from her home at a speed of 60 m/min. She took 20 min to reach school. How long would it take her to reach school if she walked at 50 m/min?

Answer : _____ min

SCORE

(Go on to the next page)

29. The ratio of the length to the breadth of a rectangle is 7 : 5. The length of the rectangle is 18 cm longer than its breadth. Find the perimeter of the rectangle.

Do not write in this space.

Answer : _____ cm

30. After a quiz, a group of friends calculated their average score. They found that if James got 20 more marks than what he did, they would have an average score of 80 marks. If he got 4 more marks, their average score would become 78 marks. How many friends are there in the group including James?

Answer : _____

End of Booklet B

SCORE

MARIS STELLA HIGH SCHOOL (PRIMARY)
PRELIMINARY EXAMINATION
PRIMARY 6 MATHEMATICS
23 AUGUST 2019
PAPER 2

17 questions
55 marks
Time: 1 h 30 min

NAME : _____ ( )

CLASS : PRIMARY 6 _____

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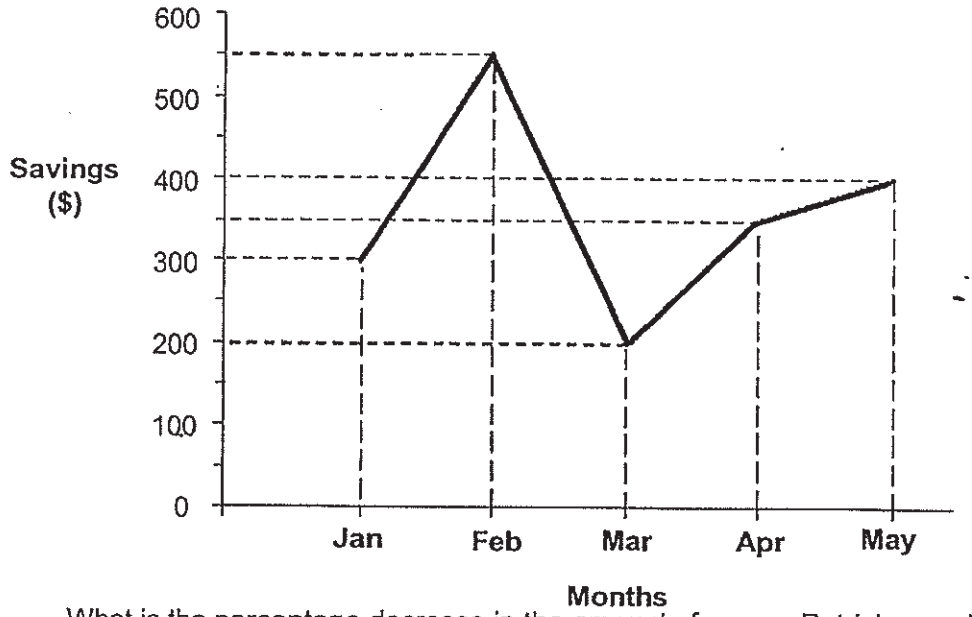
3. ANSWER ALL QUESTIONS.
4. SHOW YOUR WORKINGS CLEARLY AS MARKS ARE AWARDED FOR CORRECT WORKING.
5. WRITE YOUR ANSWERS IN THIS BOOKLET.
6. YOU ARE **ALLOWED** TO USE A CALCULATOR.

MARKS OBTAINED FOR		
PAPER 1 (BOOKLET A & B)	/ 45	Parent's Signature:
PAPER 2	/ 55	_____
TOTAL	/100	Date: _____

Questions **1** to **5** carry 2 marks each. Show your working clearly and write your answers in the space provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space.

1. The graph below shows the amount of money Patrick saved from January to May.



What is the percentage decrease in the amount of money Patrick saved from February to March?

Answer : _____ %

SCORE

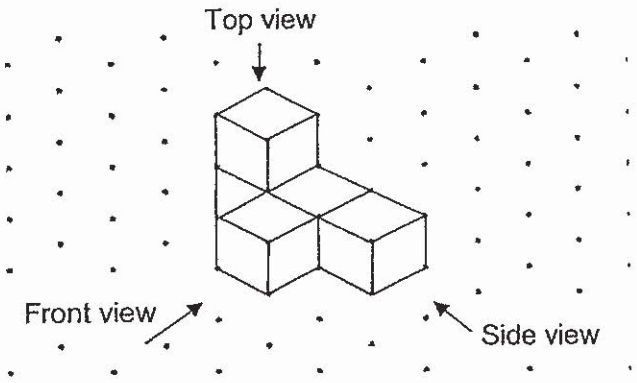
(Go on to the next page)

2. Alice and Ben baked a total of 865 cookies. Alice sold $\frac{3}{5}$ of her cookies and Ben sold 85 cookies. The number of cookies Alice has left was twice the number of cookies Ben has left. How many cookies has Ben left?

Do not write in this space.

Answer : _____

3. Draw the top and side views of the solid in the grid provided below.



Top View	Side View

SCORE

(Go on to the next page)

4. There were 800 students in a school. 40% of the students were boys. More boys joined the school and the percentage of boys became 60% of the new total.
How many boys were there in the end?

Do not write in this space.

Answer : _____

5. Stan had 15 pieces of $2 and $5 notes. He exchanged some $2 notes for $5 notes and had an equal number of $2 and $5 notes in the end.
How many $5 notes did Stan have in the end?

Answer : _____

SCORE
(Go on to the next page)

For questions **6** to **17**, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question. (45 marks)

Do not write in this space.

6. Andy has k stamps. Muthu has three times as many stamps as Andy. James has 8 more stamps than Muthu.

How many stamps do they have altogether?
(Express your answer in terms of k)

If $k = 12$, how many stamps do they have altogether?

Answer : (a) _____ [2]

(b) _____ [1]

7. Ethan and Daniel have some marbles. If Ethan gives Daniel 16 marbles, both of them will have an equal number of marbles. If Daniel gives Ethan 9 marbles, the ratio of the number of marbles Ethan has to the number of marbles Daniel has will be 6 : 1. How many marbles do the two boys have altogether?

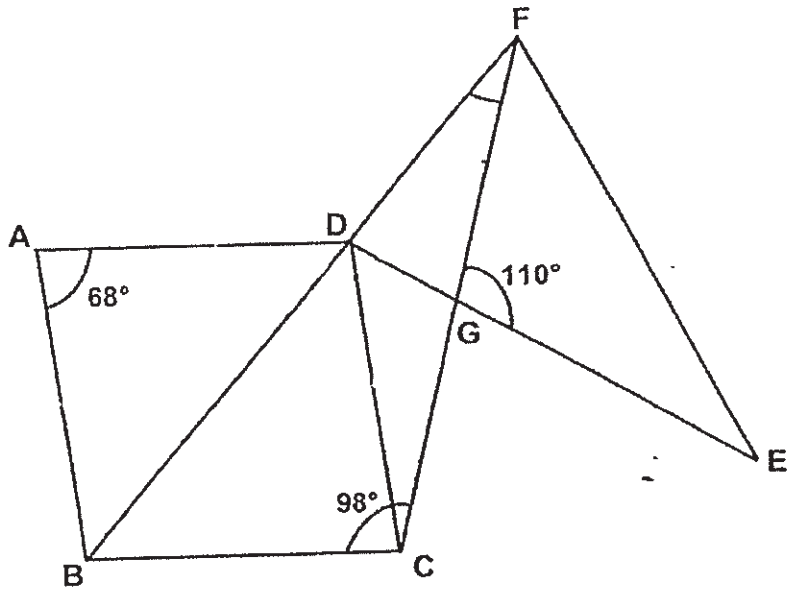
Answer : _____ [3]

SCORE

(Go on to the next page)

8. The figure below is not drawn to scale. ABCD is a rhombus and ∠BCF is 98°. BDF, CGF, DGE are straight lines. Find ∠DFG.

Do not write in this space.

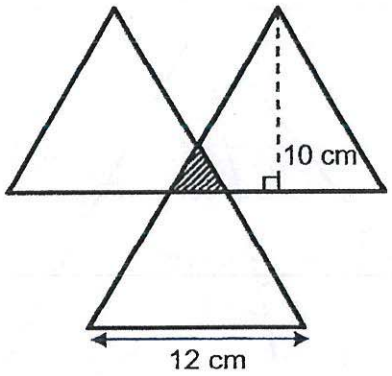


Answer : _____ [3]

SCORE

(Go on to the next page)

9. The figure is made up of 3 identical triangles. The area of the figure is 140 cm^2. Find the area of the shaded portion.



Answer : _____ [3]

Do not write in this space.

10. Tom and Jerry ran along a 3 km path around the reservoir. They started at the same point at 7.30 a.m. but ran in opposite directions. Both of them did not change their speeds throughout their run. They passed each other at 7.40 a.m. Tom's running speed was 180m/min. What was Jerry's running speed?
Leave your answer in m/min.

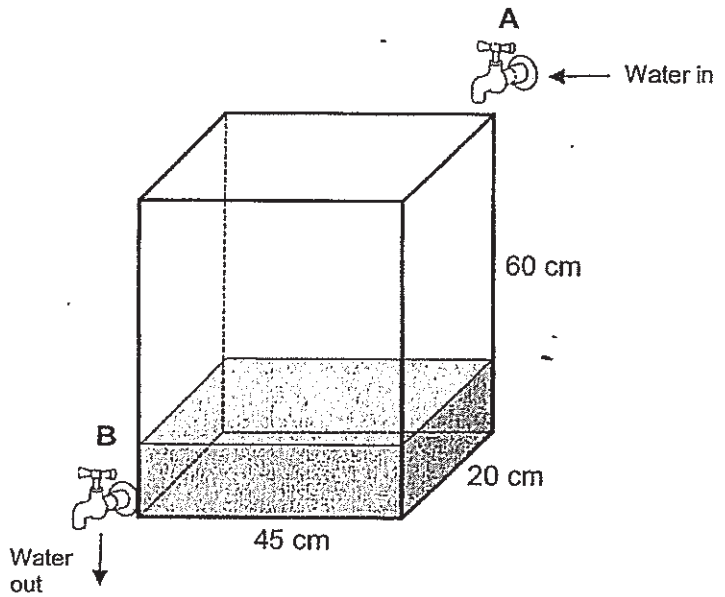
Answer : _____ [3]

SCORE

(Go on to the next page)

11. A tank measuring 45 cm by 20 cm by 60 cm is $\frac{1}{4}$ filled with water. Water is flowing from Tap A into the tank at 9ℓ/min. Water is draining from Tap B at 6ℓ/min. Both taps were turned on at the same time. How long will it take to fill the tank completely with water? Leave your answer in minutes.

Do not write in this space.



Answer : _____ [3]

SCORE

(Go on to the next page)

12. Ali and Mike went shopping together with a total sum of $300. Ali spent twice as much as Mike. The amount of money Mike had left was $36 more than what he had spent. Ali had twice as much money left as Mike. How much did Mike have at first?

Do not write in this space.

Answer : _____ [4]

SCORE

(Go on to the next page)

13. Sharon made some doughnuts to sell. $\frac{3}{4}$ of them were chocolate doughnuts and the remaining were strawberry doughnuts. After selling $\frac{5}{6}$ of the chocolate doughnuts and 210 strawberry doughnuts, she had $\frac{1}{5}$ of the doughnuts left.
How many doughnuts did she sell?

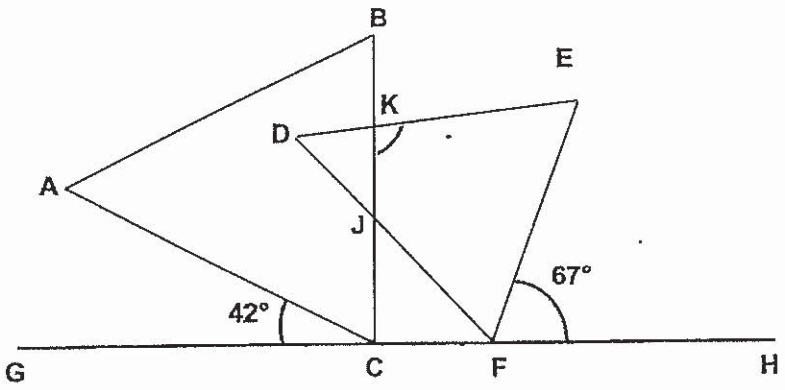
Do not write in this space.

Answer : _____ [4]

SCORE

(Go on to the next page)

14. The figure below is not drawn to scale. ABC and DEF are equilateral triangles. GH is a straight line. ∠ACG = 42° and ∠EFH = 67°. Find ∠EKJ.



Do not write in this space.

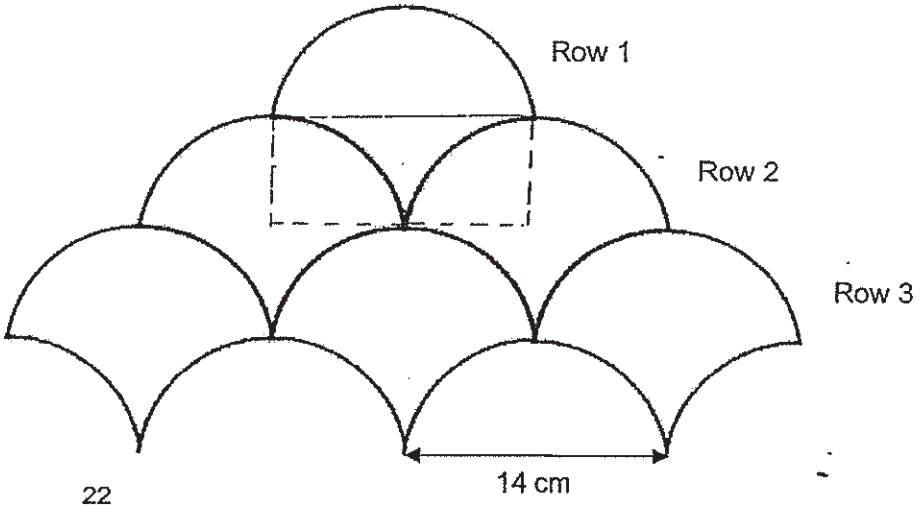
Answer : _____ [4]

SCORE

(Go on to the next page)

15. Identical wall tiles are laid in a pattern as shown below. 5 rows of tiles are formed.

Do not write in this space.



Taking $\pi = \frac{22}{7}$,

(a) Find the area of one tile.

(b) Find the total area covered by the 5 rows of tiles were formed.

Answer : (a) _____ [2]

(b) _____ [3]

SCORE

(Go on to the next page)

16. Jane, Ken and Leo decided to contribute some money to buy a present for their mother. Jane agreed to contribute 30% of the cost of the present while Ken agreed to pay 40% of the remaining amount. The rest of the price of the present will be paid by Leon.
However on the shopping day, they realised, the price of the item had increased by 25%. Jane paid $36 for her share in the end.

Do not write in this space.

(a) What was the original price of the present?

(b) How much did Leon have to pay for the present in the end?

Answer : (a) _____ [3]

(b) _____ [2]

SCORE

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17. A shop owner sold 3 times as many shirts as dresses last month. The total amount collected was $1980. She collected $720 more from the sale of the shirts than from the sale of the dresses. A dress cost $12 more than a shirt. Find the cost of a dress.

Do not write in this space.

Answer : _____ [5]

End of Paper 2

SCORE

ANSWER KEY

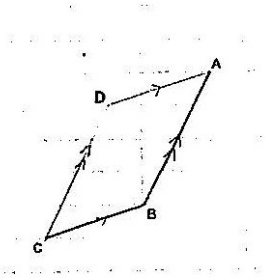
YEAR : 2019
LEVEL : PRIMARY 6
SCHOOL : MARIS STELLA HIGH SCHOOL (PRIMARY
SUBJECT : MATHEMATICS
TERM : PRELIMS

SECTION A

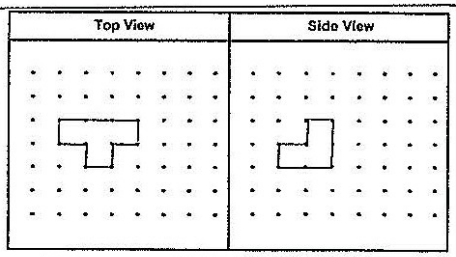
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
2	1	2	2	4	1	4	1
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
3	3	1	4	3	2	3	

SECTION B

Q16	9294
Q17	$\frac{2}{15} \div 6 = \frac{2}{15} \times \frac{1}{6} = \frac{1}{45}$
Q18	7.045
Q19	1250ml
Q20	<BFD = 180° – <AFD = 180° – 130° = 50° <BFE = 180° – 50° – 25° = 105°
Q21	1m = 3p 3m = 9p 9p + 6p = 15p 15 ÷ 3 = 5 pears
Q22	16 ÷ 4 = 4 (length of shaded face) 4 ÷ 2 = 2 (length of each cubes) 2 x 3 = 6 (length of cuboid)
Q23	30% → 24 100% → 80 80 – 14 – 24 – 16 = 26
Q24	72 x 4 = 288 288 – 70 – 68 – 72 = 78
Q25	(a) False (b) Not possible to tell (c) True
Q26	<YCB = <CDA = <CBW = 70° <XYC = <BWC = <DCW = 180° – 28° – 70° = 82°

Q27	(a)  (b) 134°
Q28	20 x 60 = 1200m 1200 ÷ 50 = 24min
Q29	2u = 18cm 1u = 9cm Perimeter = 9 x (7 + 5 + 7 + 5) = 9 x 24 = 216cm
Q30	Diff in marks → 20 – 4 = 16 Diff in average score → 80 – 78 = 2 Friend in the group → 16 ÷ 2 = 8

SECTION C

Q1	550 – 200 = 350 $\frac{350}{550} = \frac{7}{11}$ Ans = 63.63 / $63\frac{7}{11}$
Q2	A → 5u – 3u = 2u B → 1u +85 – 85 = 1u (At first) (sold) (In the end) 1u = (865 – 85) ÷ 6 = 130
Q3	
Q4	Girls at first, 60% of 800 = 480 Girls remain 40% = 480 40% → 480 60% → 480 ÷ 4 x 6 = 720 boys
Q5	15 – 3 = 12 12 ÷ 2 = 6 notes
Q6	(a) A → k B → 3k C → 3k + 8 Total = 7k+8 (b) 7 x 12 + 8 = 92

Q7	5u = 9 x 2 + 16 x 2 5u = 50 u = 10 7u = 70
Q8	<ABD/<ADB = (180 – 68) ÷ 2 = 56 <DCG = 98 – 68 = 30 <EGF = 180 – 110 = 70 <DGC = 110 <CDG = 180 – 180 – 30 = 40 <FDG = 180 – 56 – 40 = 84 <DFG = 180 – 84 – 70 = 26
Q9	$\frac{1}{2}$ x 12 x 10 = 60cm^2 60 x 3 = 180cm^2 180 – 140 = 40cm^2 40 ÷ 2 = 20cm^2
Q10	180 x 10 = 1800m Tom ran 1800m 3km = 3000m Distance of Jerry ran = 3000m – 1800m = 1200m 1200m ÷ 10 min = 120m/min
Q11	$\frac{1}{4}$ x 45 x 20 x 60 = 13,500 13,500 x 3 = 40,500 3l = 3000ml 40,500 ÷ 3000 = 13.5min
Q12	A → 4u+72 – 2u = 2u + 72 M → 2u+36 – 1u = 1u + 36 (At first) (spend) (In the end) (300 – 72 – 36) ÷ 6 = 192 ÷ 6 1u = 32 2u + 36 = 2 x 32 + 36 = $100
Q13	C → 3u = 6p – 5p = 1p S → 1u = 2p – 210 = 2p -210 (At first) (sold) (In the end) $\frac{1}{5}$ doughnuts left → 8p ÷ 5 = 1.6p 1p + 2p – 210 = 1.6p 3p – 1.6p = 210 1.4p = 210 1p = 210 ²1.4 = 150 5p = 150 x 5 =750 750 + 210 = 960
Q14	<FCJ = 180 – 60 – 42 = 18 <JCF = 180 – 60 – 67 = 53 <CJF = 180 – 78 – 53 = 49 <CJD/<FJK = 180 – 49 = 131 <EKJ = 360 – 60 – 60 + 31 = 109

Q15	(a) radius = 14 ÷ 2 = 7 7 x 14 = 98cm^2 $\frac{1}{2}$ x $\frac{22}{7}$ x 7 x 7 = 77cm^2 (Two quarter circle = one semicircle) 98 – 77 = 21cm^2 77 + 21 = 98cm^2 (b) 98 x (1 + 2 + 3 + 4 + 5) = 98 x 15 = 1470cm^2
Q16	J → 30% = $36 K → 70 x 40 % = 28% L → 100 – 30 – 28 = 42% (a) 30% = $36 100% = 36 ÷ 3 x 10 = 120 125% = $120 Original price = $120 ÷ 5 x 4 = $96 (b) 42% = $36 ÷ 30 x 42 = $50.40
Q17	D → ($1980 – $720) ÷ 2 = $630 S → ($1980 – $720) ÷ 2 + $720 = $1350 1u → $1350 ÷ 3 = $450 Diff → $630 – $450 = $180 $180 ÷ 12 = 15 unit of dress $630 ÷ 15 = $42

END