603 / SA1 / 7

SINGAPORE CHINESE GIRLS' SCHOOL

FIRST SEMESTRAL ASSESSMENT 2019

PRIMARY 6

MATHEMATICS
PAPER 1

BOOKLET A

Name : _____ ( )
Class : Primary 6 SY / C / G / SE / P

10 May 2019

		Marks attained	Max Mark
Paper 1	Booklet A		20
	Booklet B		25
Paper 2			55
Total Marks			100

Parent's Signature

15 Questions
20 Marks

Total Time for Booklets A and B: 1 h

INSTRUCTIONS TO CANDIDATES
Do not open this booklet until you are told to do so.
Follow all instructions carefully.
Answer all questions.
You are not allowed to use a calculator

Booklet A

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 correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. **(20 marks)**

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1. 300 000 + 20 000 + 40 + 4 = _____.

   (1) 302 044
   (2) 302 404
   (3) 320 044
   (4) 320 440

2. Kae spent $1 399 685 on a house. Round off this amount to the nearest thousand dollars.

   (1) $1 398 690
   (2) $1 399 000
   (3) $1 399 700
   (4) $1 400 000

3. In 6.79, what does the digit 9 stand for?

   (1) 9 ones
   (2) 9 tenths
   (3) 9 hundredths
   (4) 9 thousandths

4. Find the value of $\frac{3}{4} \div \frac{5}{12}$

(1) $\frac{16}{5}$

(2) $\frac{9}{5}$

(3) $\frac{5}{9}$

(4) $\frac{5}{16}$

5. There are red, blue and yellow beads. The ratio of the number of red beads to the number of blue beads is 2:1. The ratio of the number of red beads to yellow beads is 3 : 2. What is the ratio of the number of red beads to the number of blue beads to the number of yellow beads?

(1) 6 : 3 : 2

(2) 6 : 3 : 4

(3) 2 : 1 : 2

(4) 2 : 3 : 2

6. Amy made 7 dumplings every 3 minutes. How many dumplings can she make in an hour?

(1) 140

(2) 120

(3) 70

(4) 60

7. Jenny had \$50. She bought 4 notebooks and had \$$x$ left. What was the cost of each notebook? Express the cost of 1 notebook in terms of x.

(1) $\$\left(\frac{50-x}{4}\right)$

(2) $\$\left(50-\frac{x}{4}\right)$

(3) $\$(50-4x)$

(4) $\$\left(\frac{50x}{4}\right)$

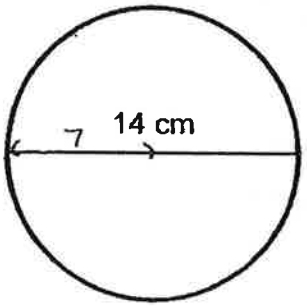
8. The diameter of the circle below (not drawn to scale) is 14 cm. Find the area of the circle. Express your answer in terms of π.

(1) 7π cm^2

(2) 14π cm^2

(3) 49π cm^2

(4) 196π cm^2



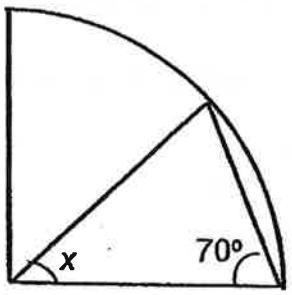
9. The figure below is made up of a quadrant and a triangle. Find $\angle x$.

(1) 40°

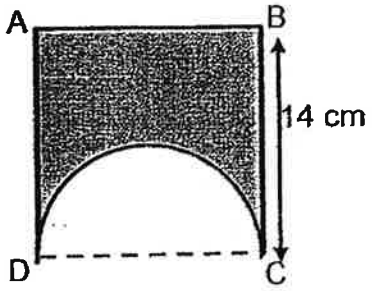
(2) 45°

(3) 70°

(4) 140°



10. ABCD is a square with a semicircle cut from the side CD as shown. Given that BC = 14 cm, find the perimeter of the shaded portion.
(Take $\pi = \frac{22}{7}$)



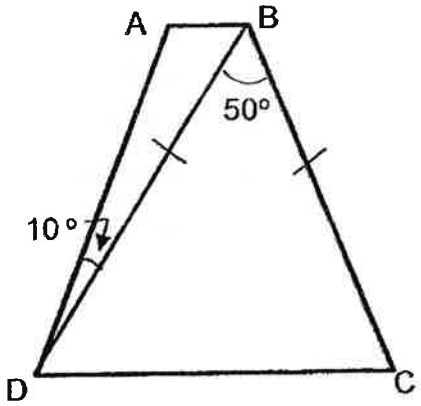
(1) 86 cm

(2) 64 cm

(3) 53 cm

(4) 44 cm

11. The figure shows a trapezium ABCD and an isosceles triangle BCD. Given that BD = BC, AB // DC and ∠CBD = 50° and ∠ABD = 10°. Find ∠BAD.



(1) 65°

(2) 75°

(3) 105°

(4) 115°

12. Jeremy has 6 kg of flour. He gave $\frac{1}{2}$ of it to his friend and used $\frac{1}{4}$ kg to bake some cookies. How much flour had he left?

(1) $\frac{3}{4}$ kg

(2) $2\frac{3}{4}$ kg

(3) $3\frac{3}{4}$ kg

(4) $5\frac{1}{4}$ kg

13. Amanda has forty 20-cent coins and Betty has sixty 50-cent coins.
Which of the following statement shows the-difference between the amount of money Betty and Amanda has?

(1) (60 – 40) x (50 - 20)
(2) (50 x 60 – 40 x 20)
(3) (60 x 40 – 50 x 20)
(4) (60 + 40) x (50 - 20)

14. There were 120 members in Club Aloha last year. This year, there are 300 members. What is the percentage increase from last year?

(1) 40%
(2) 60%
(3) 150%
(4) 250%

15 A repeat pattern is formed using the numbers 0, 1 and 2 as shown below.

0	1	2	1	0	0	1	2	1	0	0	1	2	1
1st	2nd	3rd											14th

What is the sum of the first 203 numbers?

(1) 160
(2) 161
(3) 162
(4) 163

End of Booklet A

Booklet B

Questions **16** to **20** carry **1 mark** each. Write your answers in the spaces provided. For questions which require **units**, give your answers in the units stated. **(5 marks)**

Do not write in this column

16. Use all the numbers below to form the smallest odd number.

5	8	3	2	6

Ans: _____

17. Express $\frac{3}{8}$ as a decimal correct to the nearest 2 decimal places.

Ans: _____

18. 2 pizzas were shared equally among 5 people. What fraction of a pizza did each person get?

Ans: _____

3

19. Mei Ling and John has pocket money in the ratio of 2 : 5 respectively. John gave $9 to Mei Ling and the ratio of the amount of pocket money Mei Ling to John became 3 : 4. How much money do they have altogether?

Do not write in this column

Ans: $ _____

20. The price of a dress without GST is $50. The GST is 7%, how much will Georgina pay for the dress inclusive of GST?

Ans: $ _____

/2

Questions 21 to 30 carry 2 marks each. Show your working clearly in the space for each question and write your answers in the space provided.
For questions which require units, give your answers in the units stated.

(20 marks)

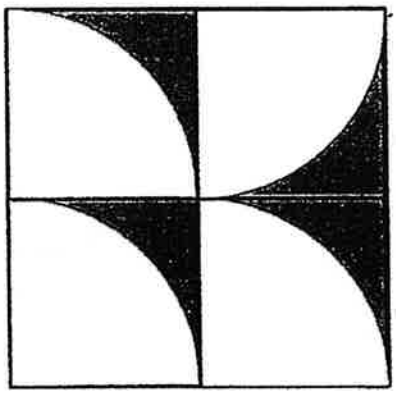
Do not write in this column

21. Helen's score for the first two tests are listed in the table below. How much must Helen score for the 3rd test in order for her to get an average score of 80 marks for all 3 tests?

Test	Marks
1	75
2	70
3	?

Ans: _____

22. The figure below is made up of 4 identical quadrants with a radius of 10 cm inside a square. What is the area of the shaded figure below?
(Take π =3.14)



Ans: _____ cm^2

4

23. Tom bought 2 erasers for x cents each. He also bought an exercise book. He spent \$6 altogether. What is the cost of the exercise book?

Do not write in this column

Ans: _____ cents

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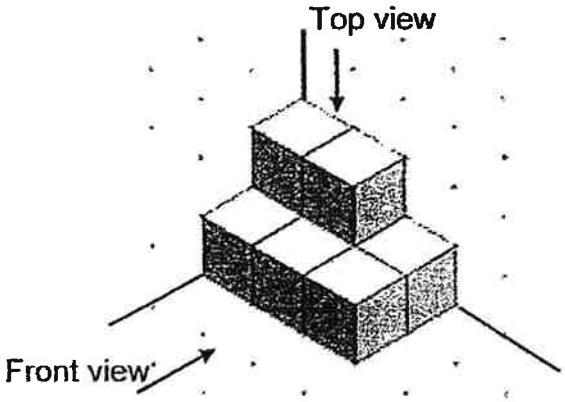
24. A toy wheel of radius 7 cm was rolled along a straight line on a table. What was the distance covered if it made a total of 10 complete revolutions?
(Take $\pi = \frac{22}{7}$)

Ans: _____ cm

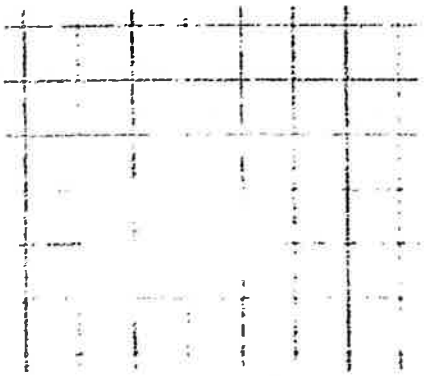
4

25. In the grid below, draw the top and ~~side~~ front view of the solid shown ~~in the grid~~ below.

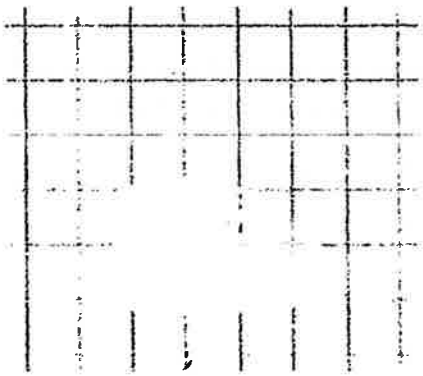
Do not write in this column



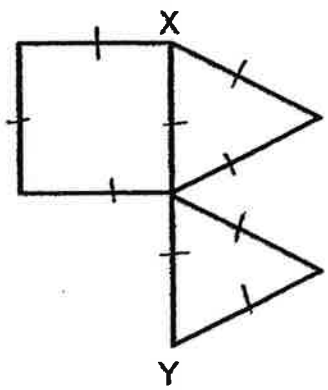
Top view



front view



26. John had a 1m long wire. He used some of it to form a square and 2 identical equilateral triangles as shown below. The length of XY is 16 cm, find the length of the remaining unused wire.

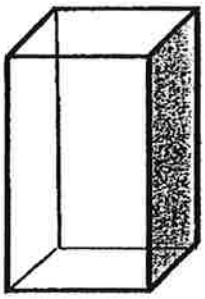


Ans: _____ cm

4

27. Tank A has a square base area of 144 cm^2. Given that the ratio of the height of the tank to the breadth of the tank is 5:3, what is the capacity of Tank A?

Do not write in this column



144 cm^2

Ans: _____ cm^3

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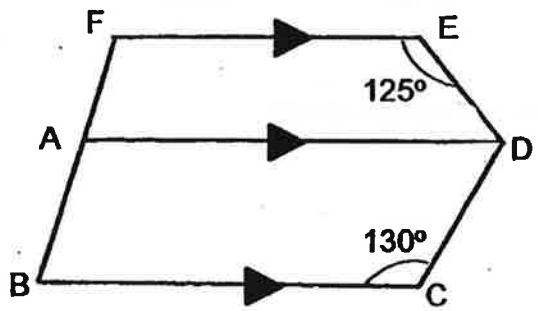
28. The figure below, not drawn to scale, is made up of two trapeziums ABCD and ADEF. Given that FE // AD // BC, find ∠CDE.

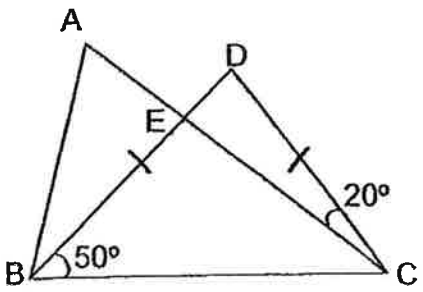


Ans: _____ °

4

29. The figure below is made up of 2 triangles, ABC and BCD. BCD is an isosceles triangle. Find ∠BEC.

Do not write in this column



Ans: _____ °

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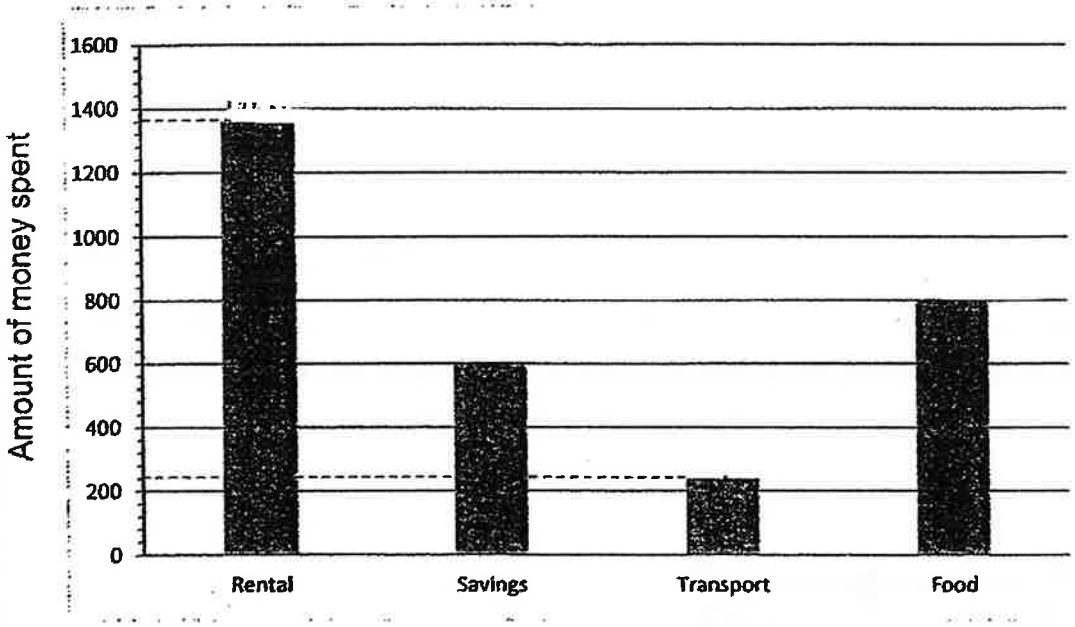
30. The bar graph below shows how Ellie spends her monthly salary.



What percentage of the salary did she spend on transport?

Ans : _____ %

End of Booklet B

4

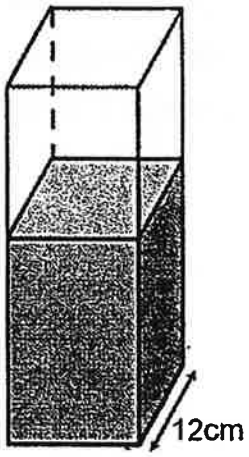
Questions 1 to 5 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the space provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this column

1. At a baking class, 5.04 kg of flour was shared among 8 students. How much flour did each student get? Express your answer in grams

Ans: _____ g

2. The container below has a square base. It is $\frac{3}{5}$ - filled. The volume of water in the container is 1296 cm^3. What is the height of the container?



Ans: _____ cm

4

3. A shop sells chocolate and vanilla cakes. 40% of the cakes are vanilla cakes. She sold 100 chocolate cakes. In the end, 60% of the cakes left are vanilla cakes. How many vanilla cakes are there?

Do not write in this column

Ans: _____

4. Machine A and Machine B were switched on at the same time, for 10 minutes. Machine A prints 120 pages per minute.
After 10 minutes, Machine A printed 300 more pages than Machine B. What is Machine B's printing rate per minute?

Ans: _____

4

5. A 2-digit number has a remainder of 5 when it is divided by 9. It has a remainder of 2 when it is divided by 11. Find the 2-digit number.

Do not write in this column

Ans: _____

2

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

Do not write in this column

6. Benjamin has \$8m. He has twice as much money as Cathy. Alice has \$5 more than Cathy.

(a) How much money does Alice have? Express your answer in terms of m.

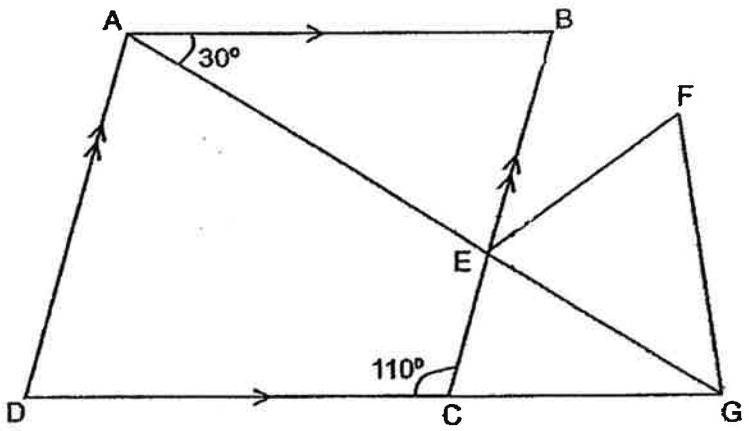
(b) Find the total amount of money they have if $m = 10$.

Ans: (a) _____ [1]

(b) _____ [2]

7. In the diagram below, not drawn to scale, ABCD is a parallelogram.

Find $\angle$ BEG.

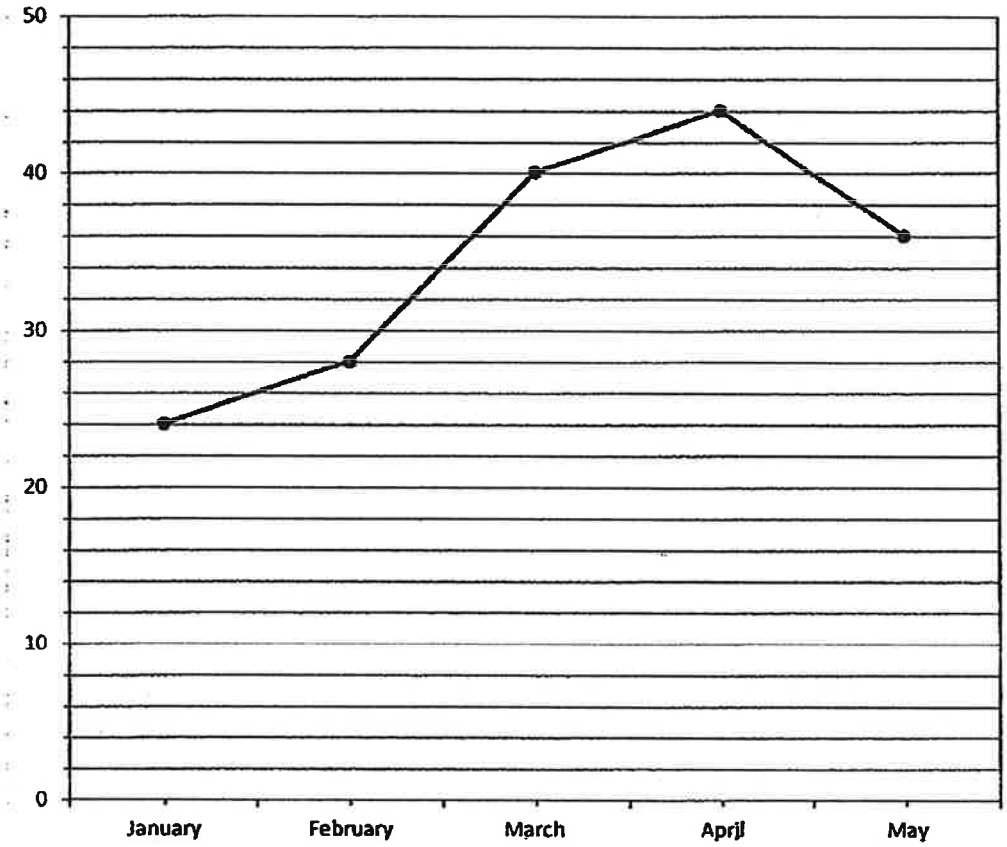


Ans : _____ [3]

6

8. The graph below shows the number of pens sold at a bookshop at the end of each month over 5 months last year.

Do not write in this column



a) Which 1-month interval has the greatest increase in the number of pens sold?

b) Find the fraction of the number of pens sold in January to the total number of pens sold in 5 months. Leave your answer in the simplest form.

Ans : (a) _____ [1]

(b) _____ [2]

3

Do not write in this column

9. Brenda and Joe had \$420 altogether. After Brenda spent $\frac{5}{8}$ of her money and Joe spent $\frac{1}{4}$ of his money, the amount of money Joe had became thrice as much as Brenda. How much money did Joe have at first?

Ans : _____ [3]

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10. Rachel spent \$1200 of her salary on a television set and 60% of the remainder on an oven. She had $\frac{1}{4}$ of her salary left. How much was her salary?

Ans : _____ [3]

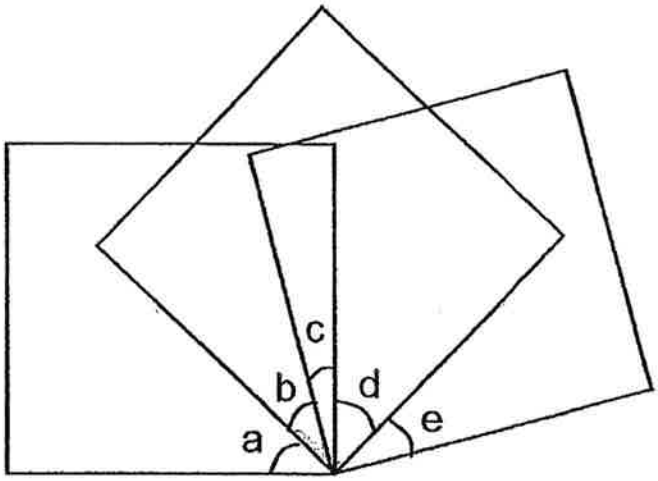
6

11. The figure below, not drawn to scale, consist of 3 identical squares.

Do not write in this column

(a) Which 2 pairs of angles are equal?

(b) If $\angle c = 15°$, find the sum of $\angle a$, $\angle b$, $\angle c$, $\angle d$ and $\angle e$.



Ans : (a) $\angle$____ and $\angle$____ [1]

$\angle$____ and $\angle$____ [1]

(b) _____ [2]

4

12. Shanice needs to score 90 marks for her last Mathematics test in this semester so as to improve on her average score from 75 to 78. How many Mathematics tests were there altogether in a semester?

Do not write in this column

Ans: _____ [4]

4

13. Daniel had some apples and oranges. He threw away $\frac{1}{5}$ of the apples and bought some oranges to replace the number of apples thrown away. He then gave $\frac{1}{4}$ of the apples and 25 oranges to his neighbours. In the end, he had 54 apples and 81 oranges left. How many oranges did he have at first?

Do not write in this column

Ans: _____ [4]

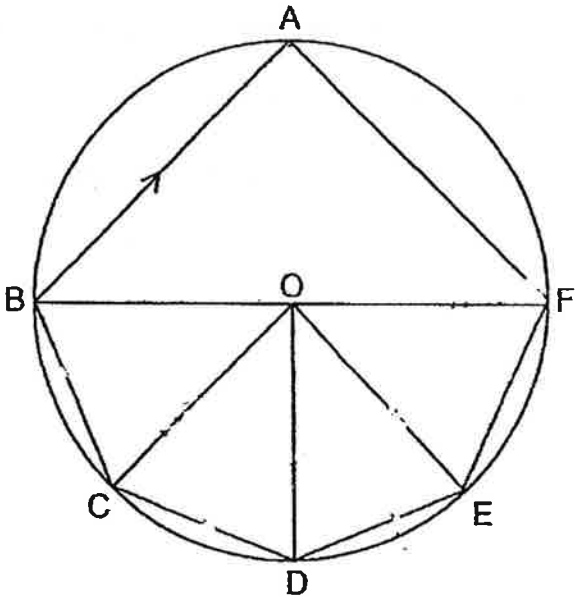
4

14. In the figure below, BF is the diameter of the circle with centre O.

BC $\overset{=}{}$ CD = DE $\overset{=}{}$ EF.

(a) Find ∠ FBC

(b) Find ∠ BFA



Do not write in this column .

Ans : (a) _____ [2]

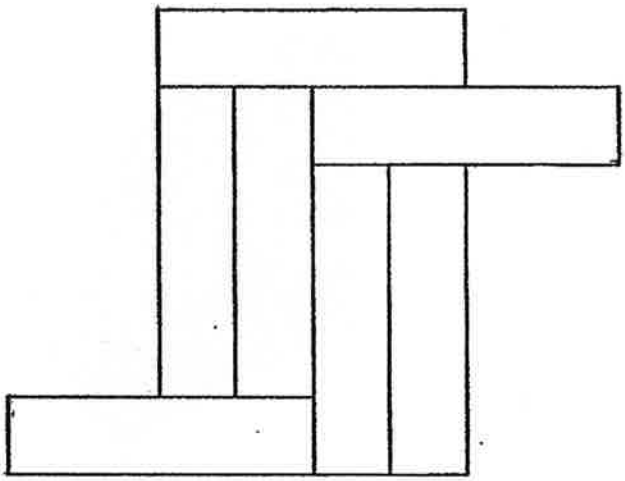
(b) _____ [2]

4

15. The diagram below is made up of 7 identical rectangular blocks.
The area of 1 block is $64cm^2$.

(a) What is the length of 1 rectangular block?

(b) What is the perimeter of the whole figure?



Do not write in this column

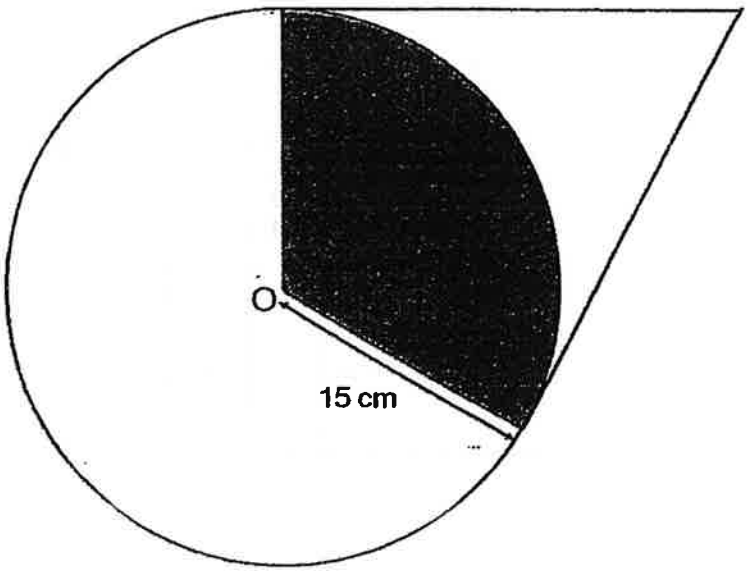
Ans: (a) _____ [2]

(b) _____ [2]

4

16. The figure below is not drawn to scale. It is made up of a circle, with centre O, and a four-sided figure. $\frac{1}{3}$ of the circle and $\frac{3}{5}$ of the four-sided figure is shaded.

Find the area of the whole figure. Leave your answer correct to 2 decimal places.



Ans: _____ [5]

Do not write in this column

5

17. Benedict and Calvin each have some money. If Benedict spends $36 and Calvin spends $12 daily, Calvin will have $260 left after Benedict spends all his money. If Calvin spends $36 and Benedict spends $12 daily, Calvin will have $20 left after Benedict spends all of his money.
How much do they have respectively?

Do not write in this column

Ans: Benedict: _____

Calvin: _____ [5]

5

End of Paper 2

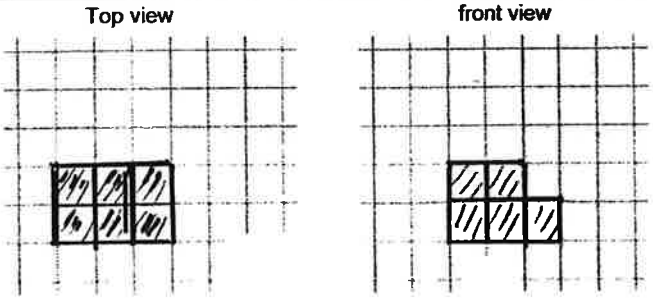
ANSWER KEY

YEAR : 2019
LEVEL : PRIMARY 6
SCHOOL : SINGAPORE CHINESE GIRLS' SCHOOL
SUBJECT : MATHEMATICS
TERM : SA1

SECTION A

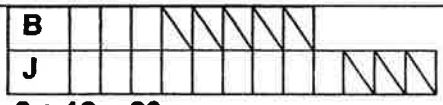
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
3	4	3	2	2	1	1	3
Q9	Q10	Q11	Q12	Q13	Q14	Q15	
1	2	3	2	2	3	4	

SECTION B

Q16	23685
Q17	0.38
Q18	$\frac{2}{5}$
Q19	M : J (before)→ 2 : 5 M : J (after)→ 3 : 4 1u = $9 $9 x 7 = $63
Q20	$50 x $\frac{107}{100}$ = $53.50
Q21	80 x 3 = 240 240 – 75 – 70 = 95
Q22	Square → 20 x 20 = 400cm^2 Circle → 3.14 x 10 x 10 = 314cm^2 400 – 314 = 86cm^2
Q23	2x cents + exercise book = 600 cents Exercise book → (600-2x)cents
Q24	$2\pi r = 2 x \frac{22}{7} x 7 = 44$ 44 x 10 = 440
Q25	
Q26	16 ÷ 2 = 8cm 8 x 9 = 72cm 1m = 100cm 100 – 72 = 28cm
Q27	Length → $\sqrt{144} = 12$ Height → 12 ÷ 3 x 5 =20 Capacity(Volume) → 20 x 144 = 2880cm^3

Q28	<CDE = <ADC + < ADE <ADC = 180 – 130 = 50° <ADE = 180 – 125 = 55° <CDE = 55 + 50 = 105°
Q29	<ACB = 50 – 20 = 30° <BEC = 180 – 50 – 30 = 100°
Q30	Total → 1360 + 600 + 240 + 800 = 3000 $\frac{240}{3000} = 8\%$

SECTION C

Q1	5.04kg x 1000 = 5040g 5040 ÷ 8 = 630g
Q2	Base area → 12 x 12 = 144cm^2 Height of filled container → 1296cm^3 ÷ 144cm^2 = 9cm Total height → 9cm ÷ 3 x 5 = 15cm
Q3	V : C → 2 : 3 / 3 : 2 X3 X2 6 : 9 6 : 4 (before) (after) 9u – 4u = 5u = 100 1u = 100 ÷ 5 = 20 Ans → 20 x 6 = 120
Q4	Machine A (10min) → 120 x 10 = 1200 Machine B (10min) → 1200 – 300 = 900 900 ÷ 10 = 90 pages per minute
Q5	68
Q6	B → 8m C → $8m/_4$ = 4m A → 4m + 5 (8 + 4 + 4)m + 5 = 16m + 5 16 x 10 + 5 = 165 (a) $(4m+5) (b) $165
Q7	<ABC = 180° – 110° = 70° <BEA = 180° – 70° – 30° = 80° <BEG = 180° – 80° = 100°
Q8	(a) February to March (b) 24 : 28 + 40 + 44 + 36 24 : 172 Ans → 6 : 43
Q9	 8 + 12 = 20u 1u → 420 ÷ 20 = 21 12u → 21 x 12 = $252

Q10	Oven : Remainder → 3 : 2 ∴ Total → 2 x 4 = 8u Television : Oven : Remainder → 3 : 3 : 2 3u → $1200 1u → $400 8u → $400 x 8 = $3200
Q11	(a) <a and <d , <b and <e (b) <a + <b + <c = 90° <a + <b = 90° – 15° = 75° <d + <e + <c = 90° <d + <e = 90° – 15° = 75° a + <b + <c + <d + <e = 75° + 15° + 75° = 165°
Q12	Total diff → 90 – 75 = 15 Average diff → 78 – 75 = 3 Number of tests → 15 ÷ 3 = 5
Q13	54 ÷ 3 x 4 = 72 72 ÷ 4 x 5 = 90 ← Apples at first 90 ÷ 5 = 18 ← Apple was threw and orange bought 81 + 25 = 106 106 – 18 = 88 ← Oranges at first
Q14	<FBC = (180° – 45°) ÷ 2 = 67.5° <BFA = 180° – 90° – 45° = 45°
Q15 (a)	Ratio of 1 block → 1 : 4 4B x 1B = 64cm^2 4B^2 = 64cm^2 64 ÷ 4 = 16cm
(b)	1B → 16 ÷ 4 = 4cm 28B → 28 x 4cm = 112cm
Q16 (a)	$\pi x 15 x 15 = 225\pi$ $225\pi \div 3 = 75\pi$ $75\pi \div 3 \, x \, 2 = 50\pi$ $225\pi + 50\pi = 275\pi$ $275 \, x \, \pi = 863.94 cm^2$
Q17	B : C → 3 : 1 / 1 : 3 X3 3 : 1 3 : 9 (before) (after) 1u + 260 = 9u +20 8u = 240 1u = 240 ÷ 8 = 30 $Calvin → 1u + 260 = 30 + 260 = $290 $ Benedict → 3u = 30 x 3 = $90