Index No. | | | | | | - | |

Name : _____( )

Class : Primary 6

Mathematics Teachers : TMY / SL / KYS / LYL / KC

SINGAPORE CHINESE GIRLS' SCHOOL
PRELIMINARY EXAMINATION

PRIMARY 6 20 Aug 2024

MATHEMATICS
PAPER 1
(BOOKLET A)

Additional materials: Optical Answer Sheet (OAS) **Total Time for Booklets A and B: 1 h**

INSTRUCTIONS TO CANDIDATES

1. Write your index number in the boxes at the top right-hand corner.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a 2B pencil to shade your answers on the Optical Answer Sheet (OAS).
6. The use of calculators in NOT allowed.

This booklet consists of 8 printed pages.

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

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. 3 hundreds, 2 tenths and 7 hundredths is _____.

   (1) 300.027
   (2) 300.270
   (3) 300.720
   (4) 320.070

2. Round 467 583 to the nearest thousand.

   (1) 467 000
   (2) 467 600
   (3) 468 000
   (4) 470 000

3. Which of the following fractions is the largest?

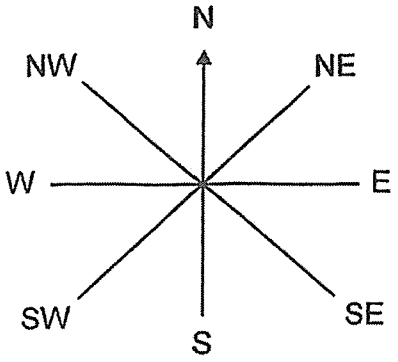
   (1) $\frac{2}{3}$
   (2) $\frac{3}{5}$
   (3) $\frac{5}{9}$
   (4) $\frac{6}{11}$

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

How many eighths are there in $2\frac{3}{4}$?

(1) 11
(2) 19
(3) 22
(4) 23

5. The figure shows an 8-point compass. Judy was facing north-west (NW) after she had turned 135° clockwise. Which direction was Judy facing at first?



(1) North
(2) South
(3) East
(4) West

6. There were 80 children in a school hall. 24 children were boys. What percentage of the children were girls?

(1) 24%
(2) 30%
(3) 56%
(4) 70%

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7. Wenling had \$20. After buying 4 identical plates, she had \$z left. Express the cost of 1 plate in terms of z.

(1) $\$(20 - 4z)$

(2) $\$(20 - \frac{z}{4})$

(3) $\$(\frac{20z}{4})$

(4) $\$(\frac{20 - z}{4})$

8. The table shows the number of cars and motorcycles in a carpark over the weekend.

	Cars	Motorcycles
Saturday	240	?
Sunday	128	72

20% of the vehicles in the carpark on Saturday were motorcycles. How many motorcycles were there in the carpark on Saturday?

(1) 48

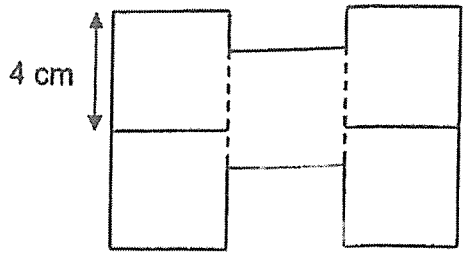
(2) 60

(3) 88

(4) 110

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

The figure below is made up of 5 identical squares, each of side 4 cm. Find the perimeter of the figure.



(1) 40 cm

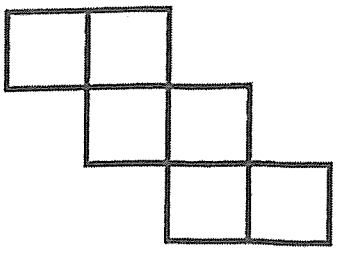
(2) 48 cm

(3) 56 cm

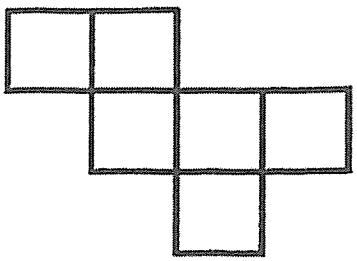
(4) 80 cm

10. Which of the following is **not** the net of a cube?

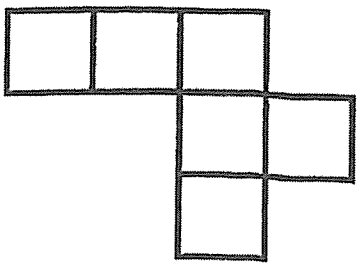
(1)



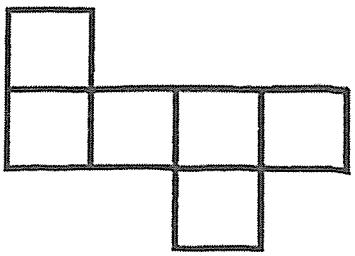
(2)



(3)



(4)



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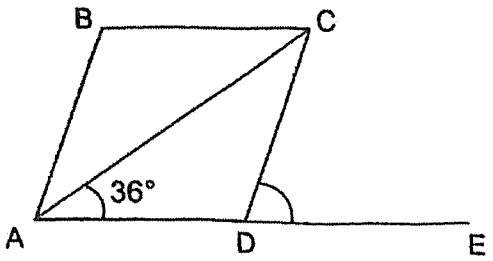
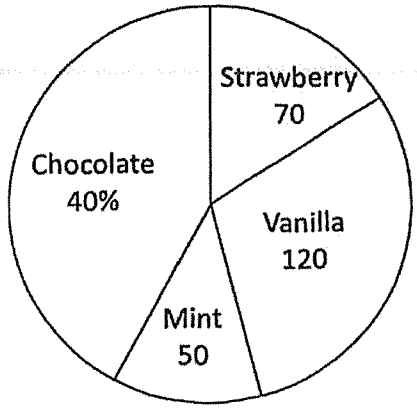
11. In the figure below, not drawn to scale, ABCD is a rhombus. ADE is a straight line and ∠CAD is 36°. Find ∠CDE.



(1) 36°
(2) 72°
(3) 108°
(4) 144°

12. A group of children were asked to name their favourite ice cream flavours. The pie chart below shows their choices. How many children chose chocolate ice cream as their favourite?



(1) 160
(2) 170
(3) 240
(4) 400

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13. Alison and Betty had 200 picture cards. After Alison gave Betty 20 picture cards, Alison still had 40 cards more than Betty. How many cards did Betty have at first?

(1) 60
(2) 70
(3) 80
(4) 140

14. The price of a handbag was reduced from $150 to $120. What was the percentage decrease in price of the handbag?

(1) 20%
(2) 25%
(3) 30%
(4) 80%

15. A table with 4 columns is filled with numbers in a certain pattern.
The first 4 rows of the table are shown below.

	Column A	Column B	Column C	Column D
Row 1	57	58	59	60
Row 2	61	62	63	64
Row 3	65	66	67	68
Row 4	69	70	71	72
.	.	.	.	.
.	.	.	.	.
.	.	.	.	.

In which column will the number 350 appear?

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

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Name : _____ _____( )

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SINGAPORE CHINESE GIRLS' SCHOOL
PRELIMINARY EXAMINATION

PRIMARY 6

20 Aug 2024

MATHEMATICS
PAPER 1
(BOOKLET B)

Total Time for Booklets A and B: 1 h

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
5. The use of calculators in NOT allowed.
6. Do not use correction fluid/tape.
7. Do not use highlighters on any part of your answers.

	Max Mark	Marks attained
Booklet B	25	

This booklet consists of 8 printed pages.

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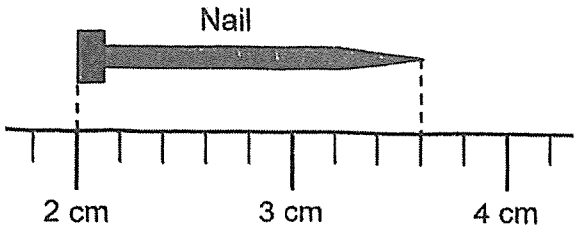
Booklet B

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)**

16. What is the length of the nail shown in the figure below?



Ans: _____ cm

17. Find the value of $8 + 32 \div 4 - 3 \times 2$

Ans: _____

18. Find the value of $24.12 - 6.75$

Ans: _____

3

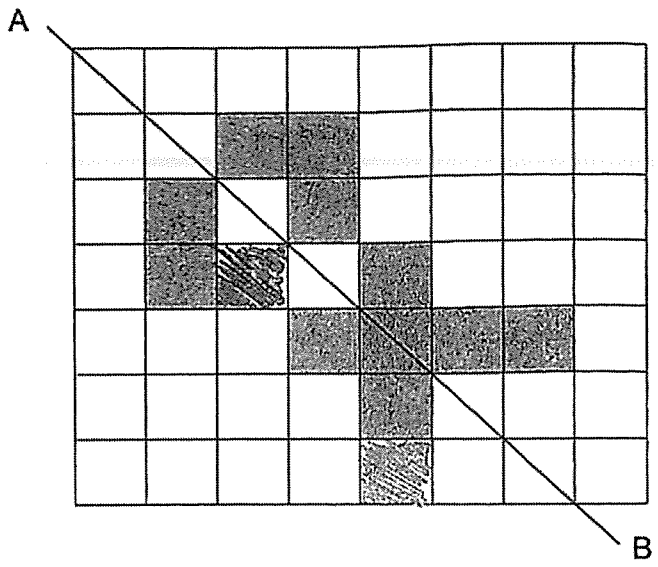
For more papers, Go to: SeriousAboutSchool.com/OnlineExams

19. Find the value of $\frac{3}{10} \div 12$

Ans: _____

---

20. Shade 2 more unit squares so that AB is the line of symmetry for the figure.



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2

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

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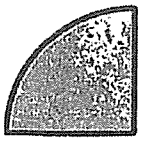
21. Find the perimeter of the quadrant of radius 7 cm. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

---

22. The table shows the charges to post a parcel.

Weight of parcel	Cost
First 3 kg	\$1 per kg
Each additional kg	\$2 per kg

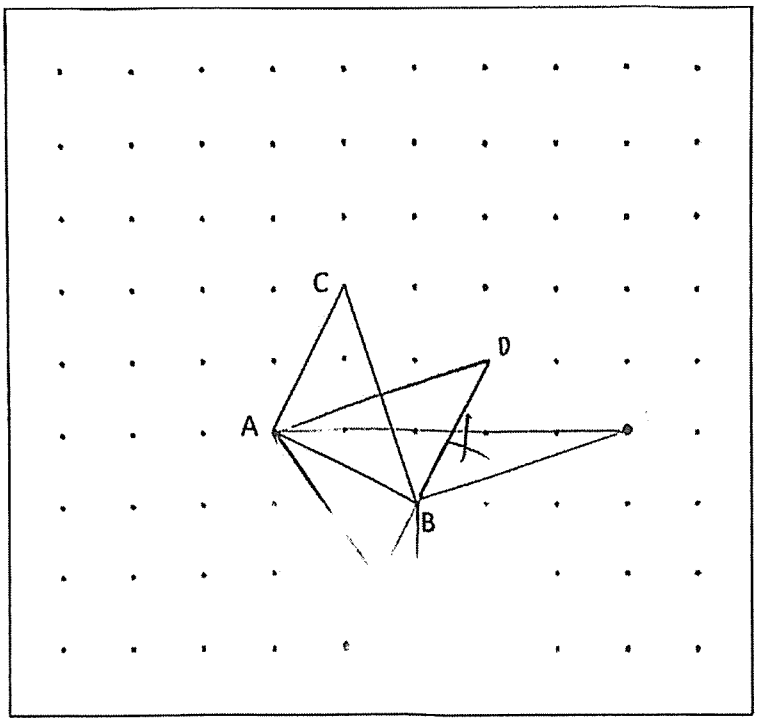
Mrs Tan posted 2 parcels. One weighs 2 kg and the other weighs 5 kg.

How much did Mrs Tan pay?

Ans: \$ _____

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

23. A triangle ABC is drawn on a square grid inside a box.



By joining dots on the grid with straight lines,

(a) draw ABD such that ABD is a right-angled triangle with the same perimeter as triangle ABC. ABD should not overlap with ABC.

(b) draw ABE such that ABE is an obtuse triangle with the same area as triangle ABC.

---

24. The average height of 5 boys is 146 cm. Sundra whose height is 158 cm left the group. What is the average height of the remaining boys?

Ans: _____ cm

4

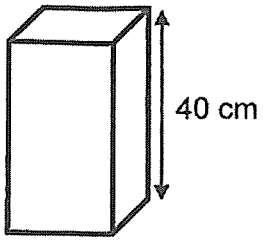
For more papers, Go to: SeriousAboutSchool.com/OnlineExams

25. Mrs Teo had $\frac{5}{6}$ kg of sugar. She used $\frac{1}{2}$ of it and gave $\frac{1}{4}$ kg of sugar away. How much sugar did she have left?

Ans: _____ kg

---

26. A tank with a square base has a volume of 16 ℓ.
Given that the height of the tank is 40 cm, find the length of the square base.



Ans: _____ cm

4

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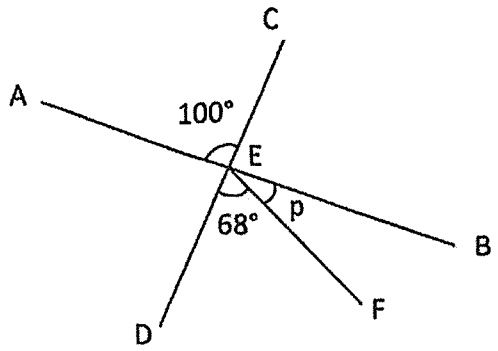
27. AEB and CED are straight lines. ∠AEC = 100° and ∠DEF = 68°. Find ∠p.



Ans: _____ °

---

28. Mrs Raju had 120 apples and pears at her stall.

She sold $\frac{1}{2}$ of the apples and $\frac{1}{4}$ of the pears and had an equal number of apples and pears left.

How many apples did Mrs Raju sell?

Ans: _____

4

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29. Mrs Wong gave her students some pencils. If she gave each student 11 pencils each, she would have 5 pencils left. If she gave each student 8 pencils each, there would be 32 pencils left. How many pencils did she have altogether?

Ans: _____

---

30. Alex and Meng took part in a race. Both of them ran at constant speeds. Alex ran 50 m/min faster than Meng.

When Meng had run $\frac{1}{4}$ of the race, Alex was 600 m ahead of him.

How long did Meng take to complete the race? Express your answer in minutes.

Ans: _____ min

4

End of Booklet B

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

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Name : _____ ( )

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20 Aug 2024

SINGAPORE CHINESE GIRLS' SCHOOL
PRELIMINARY EXAMINATION

PRIMARY 6

MATHEMATICS
PAPER 2

Time: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
5. The use of an approved calculator is allowed.
6. Do not use correction fluid/tape.
7. Do not use highlighters on any part of your answers.

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

Parent's Signature

This booklet consists of 14 printed pages.

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

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

1. The market is 7.5 km away from Siva's house. Siva took 10 minutes to drive to the market. Find Siva's average speed for the journey.

Ans: _____ km/h

2. Farah and Sue shared the cost of an oven. Farah paid \$30 more than $\frac{5}{8}$ of the cost of the oven. Sue paid \$90. How much did the oven cost?

Ans: \$_____

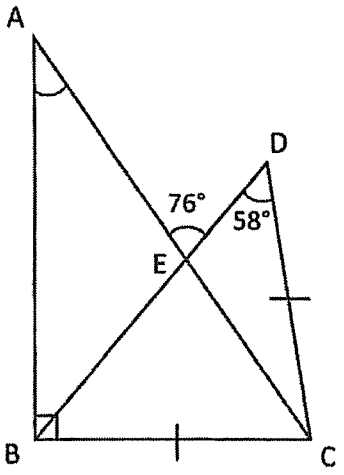
3. Kelly had $2\frac{4}{5}$ l of juice. She used it to fill as many identical glasses as she could to the brim. Each glass holds $\frac{1}{4}$ l of juice.

How much juice did she have left?

Ans: _____ ℓ

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

4. In the figure below, ABC is a right-angled triangle and BCD is an isosceles triangle. BC = CD. ∠AED = 76° and ∠BDC = 58°.
Find ∠BAC.



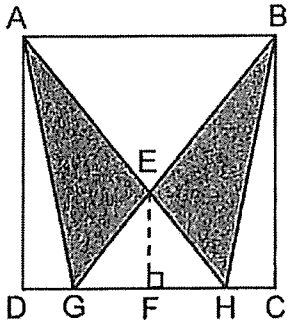
Ans: _____ °

---

5. The figure below is made up of 2 identical triangles, Triangle AGH and Triangle BGH, drawn within Square ABCD.

EF is $\frac{2}{5}$ of BC. The area of the shaded parts is 36 cm^2.

Find the area of Triangle AGH.



Ans: _____ cm^2

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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 or part-question. (45 marks)

---

6. The table below shows the number of magazines sold in a book store last week.

Day	Number of magazines sold
Monday to Friday	3y per day
Saturday	2y + 10
Sunday	4y - 2

(a) What was the total number of magazines sold last week? Express your answer in terms of y in the simplest form.

Ans: (a) _____ [2]

(b) If y = 15, what was the total number of magazines sold on Saturday and Sunday?

Ans: (b)_____ [2]

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

7. A shopkeeper has some red and blue pens. After he sells 240 red pens, the percentage of pens he has that are red will decrease from 40% to 20%. How many red pens does he have at first?

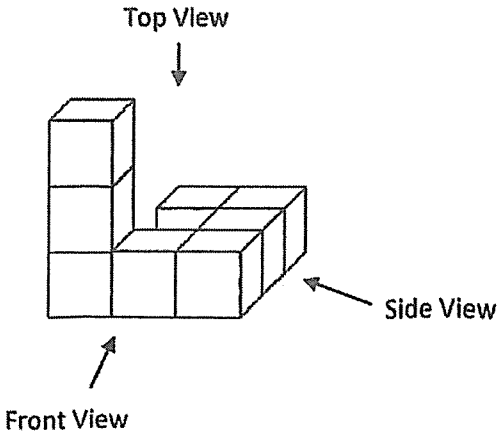
Ans: _____ [3]

8. A shop sells identical rolls of coloured wire of length 40 cm. Alice needs 120 pieces of wire, each of length 7 cm, to complete an art project. What is the least number of rolls of coloured wire that Alice needs to buy from the shop to complete her project?

Ans: _____ [3]

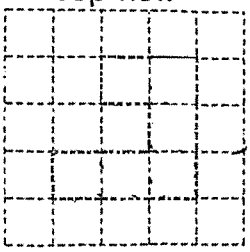
For more papers, Go to: SeriousAboutSchool.com/OnlineExams

9. The solid below is made up of 8 identical unit cubes.

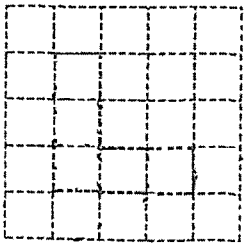


(a) Draw the top view and the side view of the solid on the grids below. [2]

Top view



Side view



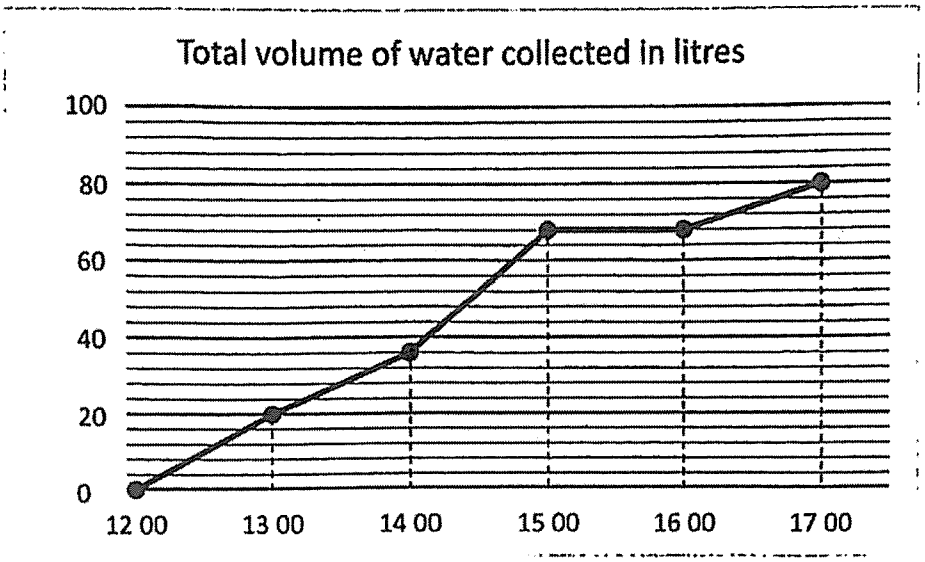
(b) What is the greatest number of unit cubes that can be added to the solid without changing the front view and side view?

Ans: (b)_____ [1]

3

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

10. The line graph shows the total volume of water collected in a tank from 12 00 to 17 00.



(a) During which one-hour interval was there no water flowing into the tank?

Ans: (a) _____ to _____ [1]

(b) How much water flowed into the tank between 13 00 and 14 00?

Ans: _____ [1]

(c) What was the average volume of water collected per hour?

Ans: _____ [2]

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

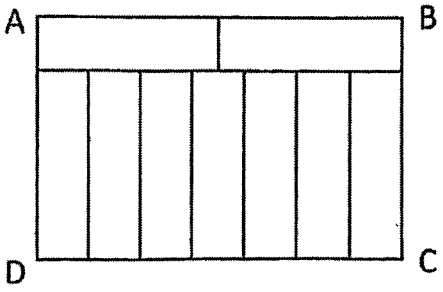
11. Julia went shopping. After spending $\frac{3}{8}$ of her money on a bag, she bought a wallet which cost $60 less than the bag. Finally, with the remaining money, she bought a dress which was $\frac{1}{2}$ of the total cost of the bag and wallet. How much did Julia pay for the wallet?

Ans: _____ [3]

3

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

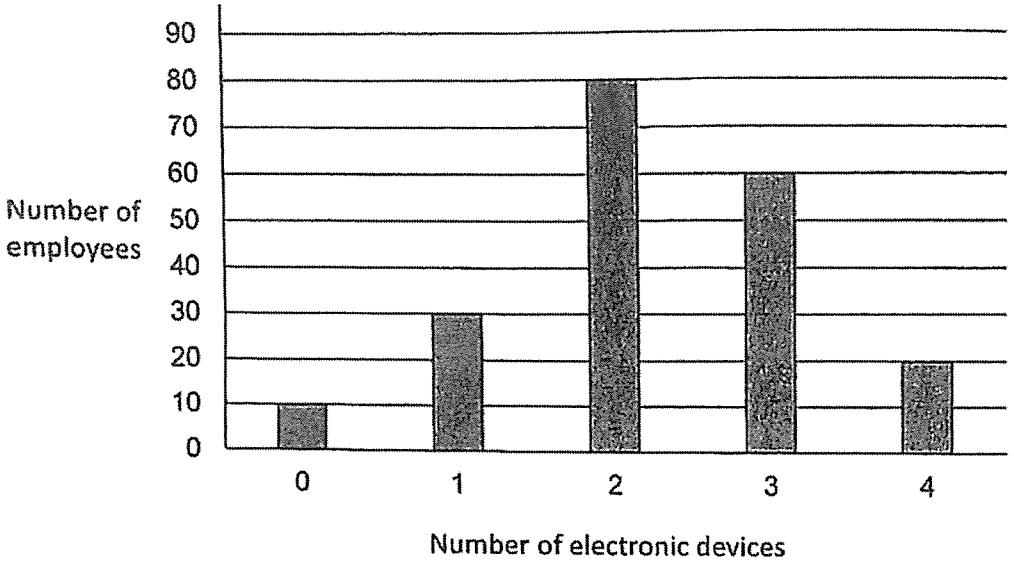
12. 9 identical small rectangles are combined to form a large rectangle ABCD as shown below. The perimeter of Rectangle ABCD is 138 cm. Find the area of rectangle ABCD.



Ans: _____ [4]

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

13. The bar graph shows the number of electronic devices owned by 200 employees in a company.



(a) What fraction of the number of employees do not own any electronic devices?

Ans: (a) _____ [1]

(b) How many employees own at least 2 electronic devices?

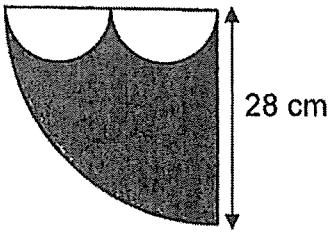
Ans: (b) _____ [1]

(c) What is the total number of electronic devices owned by all the employees in the company?

Ans: (c) _____ [2]

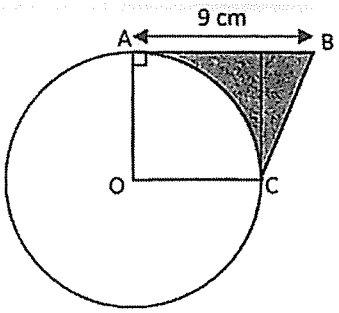
For more papers, Go to: SeriousAboutSchool.com/OnlineExams

14 (a) The figure below shows 2 identical semi-circles within a quadrant. The radius of the quadrant is 28 cm. Find the perimeter of the shaded part. (Take $\pi = \frac{22}{7}$)



Ans: (a) _____ [2]

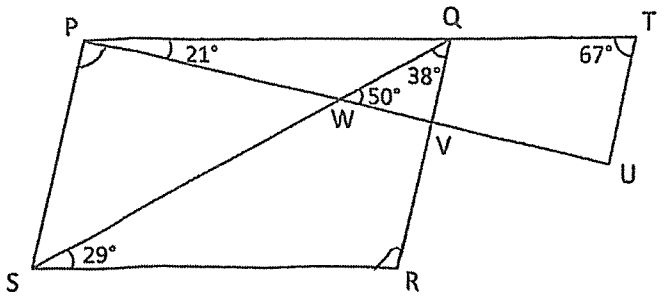
(b) The figure shows a circle with centre O and a trapezium OABC. The radius of the circle is 6 cm and AB is 9 cm. Find the area of the shaded part. (Take $\pi = 3.14$)



Ans: (b) _____ [3]

For more papers, Go to: SeriousAboutSchool.com/OnlineExams

15. PQRS is a parallelogram, and PQT and PVU are straight lines.
$\angle QWV = 50°$, $\angle WQV = 38°$, $\angle WSR = 29°$, $\angle QPW = 21°$ and $\angle QTU = 67°$.



(a) Find $\angle SPW$.

Ans: (a) _____ [2]

(b) Each statement is either true, false or not possible to tell. Put a tick (✓) to indicate your answer.

Statement	True	False	Not possible to tell
$\angle SPW = \angle RVU$			
TU is parallel to QV.			

[2]

4

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16. A rectangular tank measuring 75 cm by 40 cm by 48 cm was $\frac{3}{4}$ filled with water.

Tap A was turned on to fill the tank with water at a rate of 4 l per minute.

3 minutes later, Tap B was turned on to drain the water out of the tank.

From the time both taps were turned on, it took 20 minutes to drain all the water from the tank.

What was the rate of flow of water from Tap B?

Ans: _____ [4]

4

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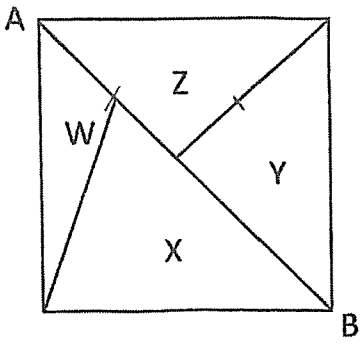
17. The figure shown below shows a square that is divided into 4 parts, W, X, Y and Z. The line AB is the diagonal of the square.



The ratio of Area W to Area X is 1 : 4.

The ratio of Area X to Area Y is 3 : 2.

Area Z is 52.5 cm^2. What is the length of one side of the square?

Ans: _____ [4]

End of Paper 2

~ Please check your work thoroughly. ~

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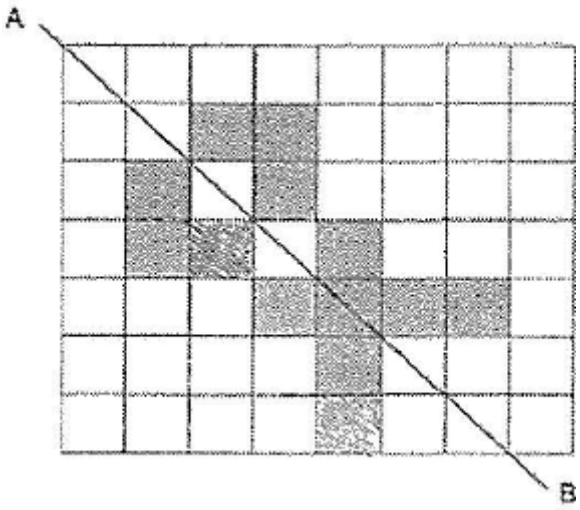
SCHOOL : SINGAPORE CHINESE GIRLS SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATHEMATICS
TERM : 2024 PRELIMINARY EXAMINATION

Booklet A

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

Booklet B

Q16	1.6cm
Q17	8 + 32 ÷ 4 – 3 x 2 = 8 + 8 – 6 = 10
Q18	17.37
Q19	$\frac{3}{120}$
Q20	
Q21	44 ÷ 4 = 11 11 + 14 = 25cm

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Q22	**2kg = $2** **5kg = $7** **Total = $9**
Q23	**a) DRAWING** **b) DRAWING**
Q24	**146 x 5 = 730** **730 – 158 = 572** **572 ÷ 4 = 143cm**
Q25	1. Determine how much sugar Mrs. Teo used: • She used $\frac{1}{2}$ of the total $\frac{5}{6}$ kg of sugar. • To find out how much this is, multiply $\frac{1}{2}$ by $\frac{5}{6}$: $$\frac{1}{2} \times \frac{5}{6} = \frac{5}{12} \text{ kg}$$ 2. Subtract the amount she used from the total: • Start with $\frac{5}{6}$ kg and subtract $\frac{5}{12}$ kg: • To subtract these fractions, find a common denominator. The common denominator for 6 and 12 is 12. $$\frac{5}{6} = \frac{10}{12}$$ So, $$\frac{10}{12} - \frac{5}{12} = \frac{5}{12} \text{ kg}$$ 3. Subtract the amount she gave away: • She gave away $\frac{1}{4}$ kg of sugar. • Subtract $\frac{1}{4}$ kg from $\frac{5}{12}$ kg. • Again, find a common denominator. The common denominator for 4 and 12 is 12. $$\frac{1}{4} = \frac{3}{12}$$ So, $$\frac{5}{12} - \frac{3}{12} = \frac{2}{12} = \frac{1}{6} \text{ kg}$$
Q26	**16000 ÷ 40 = 400** **$\sqrt{400}$ = 20cm**
Q27	**180 – 80 – 68 = 32°**
Q28	**$\frac{1}{2} = \frac{3}{6}$** **120 ÷ 10 – 12** **12 x 3 = 36**

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Q29

Let N be the total number of pencils Mrs. Wong had, and x be the number of students.

Step 1: Create the equations based on the given information.

1. When each student gets 11 pencils:

$$N = 11x + 5$$

(Because after giving 11 pencils to each student, 5 pencils are left.)

2. When each student gets 8 pencils:

$$N = 8x + 32$$

(Because after giving 8 pencils to each student, 32 pencils are left.)

Step 2: Set the equations equal to each other.

Since both equations represent N, we can set them equal:

$$11x + 5 = 8x + 32$$

Step 3: Solve for x.

Subtract $8x$ from both sides:

$$3x + 5 = 32$$

Subtract 5 from both sides:

$$3x = 27$$

Divide by 3:

$$x = 9$$

So, there are 9 students.

Step 4: Substitute $x = 9$ back into one of the original equations to find N.

Using the first equation:

$$N = 11(9) + 5 = 99 + 5 = 104$$

Thus, Mrs. Wong had 104 pencils altogether.

Q30

12min x 4 = 48mins

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Show your working clearly in the space provided for each question and write your answers in the spaces provided. Questions can be found at the end of the worksheet.

1. 10 minutes = 10 ÷ 60 hr = $\frac{1}{6}$ hr

   Average speed = 7.5 ÷ $\frac{1}{6}$ = 45 km per hr

   Ans: 45 km per hr

---

2. Let u = cost of oven

   Amount paid by Sue = $\frac{3}{8}$ u – 30 = 90 (1)

   3u – 240 = 720 (1) x 3

   3u = 720 + 240 = 960

   u = 960 ÷ 3 = $320 = cost of oven

   Ans: 45 km per hr

---

3. 2 ℓ can fill eight $\frac{1}{4}$ ℓ glasses

   $\frac{4}{5}$ ℓ can fill three $\frac{1}{4}$ ℓ glasses

   Remainder = $\frac{4}{5} - \frac{3}{4} = \frac{1}{20}$ ℓ

   Ans: $\frac{1}{20}$ ℓ

---

4. ∠DBC = 58° (Isosceles triangle)

   ∠ABE = 90 – 58 = 32°

   ∠AEB = 180 – 76 = 104°

   ∠BAC = 180 – 32 – 104 = 44°

   Ans: 44°

---

5. Let GH = u

   BC = v

   Shaded area = ½ x u x v + ½ x u x v – ½ x u x $\frac{2}{5}$ v = $\frac{4}{5}$ uv = 36

   uv = 36 x $\frac{5}{4}$ = 45

   Area of AGH = ½ x u x v = ½ x 45 = 22.5 cm^2

   Ans: 44°

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6. a)

Total number of magazines sold last week = 3y x 5 + 2y + 10 + 4y – 2

= 21y + 8

b)

Number of magazines sold on Saturday & Sunday = 2y + 10 + 4y – 2

= 6y + 8 = 6 x 15 + 8 = 98

Ans: a) 21y + 8

b) 98

7*. Let number of Blue pen = u

Let number at first = v

Percent of Blue pen at first = $\frac{u}{v} = \frac{60}{100}$

10u = 6v (1)

Blue pen at the end = $\frac{u}{v-240} = \frac{80}{100}$

10u = 8v – 1920

6v = 8v – 1920 (substitute 10u from (1))

2v = 1920

v = 1920 ÷ 2 = 960 = total number at first

10u = 6 x 960 substitute v into (1)

u = 576

Number of red pen at first = 960 – 576 = 384

Ans: 384

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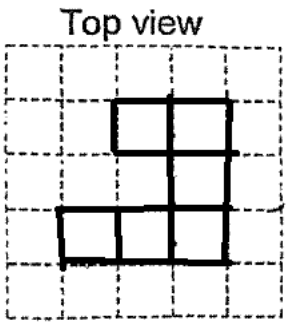
8. Number of 7 cm wires per roll = 40 ÷ 7 = 5 R 5

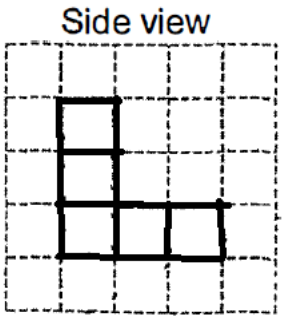
Least number of rolls = 120 ÷ 5 = 24

Ans: 24

---

9. a)





b)

3

Ans: a) see figure

b) 3

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10. a)

During 15 00 to 16 00 hrs

b)

16 ℓ

c)

Average volume of water collected per hour = 80 ÷ (17-12) = 16 ℓ per hr

Ans: a) 15 00 to 16 00

b) 16 ℓ

c) 16 ℓ per hr

---

11. Let u = amount of money at first

Cost of bag = $\frac{3}{8}$ u

Cost of wallet = $\frac{3}{8}$ u – 60

Cost of dress = ½ x ($\frac{3}{8}$ u + $\frac{3}{8}$ u – 60)

= $\frac{3}{8}$ u – 30 = remaining money = u - $\frac{3}{8}$ u – ($\frac{3}{8}$ u – 60) = $\frac{1}{4}$ u + 60

$\frac{3}{8}$ u - $\frac{1}{4}$ u = 60 + 30 = 90

$\frac{1}{8}$ u = 90

u = 90 x 8 = \$720 = money at first

Cost of wallet = $\frac{3}{8}$ x 720 – 60 = \$210

Ans: \$210

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12. a)

Let width of small rectangle = u

Length of small rectangle = 3.5u

Perimeter = 7u + 2u + 3.5u + 3.5u + 3.5u + 3.5u = 23u = 138

u = 138 ÷ 23 = 6 cm

Length of small rectangle = 3.5 x 6 = 21 cm

Area of ABCD = (6 x 7) x (6 + 21) = 1134 cm^2

Ans: 1134 cm^2

---

13. a)

Fraction of employees without electronic devices = $\frac{10}{200} = \frac{1}{20}$

b)

Number of employees with more than 2 devices = 80 + 60 + 20 = 160

c)

Total number of devices owned by employees = 30 + 80 x 2 + 60 x 3 + 20 x 4 = 450

ns: a) $\frac{1}{20}$

b) 160

c) 450

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14. a)

Perimeter of quadrant = $\frac{1}{4}$ x 2 x $\frac{22}{7}$ x 28 = 44 cm

Perimeter of 2 semicircles = 2 x $\frac{22}{7}$ x 7 = 44 cm

Perimeter of shaded part = 44 + 44 + 28 = 116 cm

b)

Area of square = 6 x 6 = 36 cm^2

Area of quadrant = 3.14 x 6 x 6 x $\frac{1}{4}$ = 28.26 cm^2

Area of triangle = ½ x 3 x 6 = 9 cm^2

Shaded area = 36 - 28.26 + 9 = 16.74 cm^2

Ans: a) 116 cm

b) 16.74 cm^2

---

15. a)

∠QRS = 180 – 38 – 29 = 113°

∠QPS = 113°

∠SPW = 113 – 21 = 92°

b)

∠SPW = ∠RVU is True (corresponding angles)

∠QWP = 180 – 50 = 130°

∠PQW = 180 – 21 – 130 = 29°

∠PQV = 38 + 29 = 67 = ∠PTU

Therefore TU is parallel with QV is True

Ans: a) 92°

b) T, T

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16. Volume of water at first = $\frac{3}{4}$ x 75 x 40 x 48 = 108 ℓ

Additional water 3 minutes later = 3 x 4 = 12 ℓ

Volume of water at 3 minute = 108 + 12 = 120 ℓ

Net outflow rate = 120 ÷ 20 = 6 ℓ per minute

Flow rate of tap B = 6 + 4 = 10 ℓ per minute

Ans: 10 ℓ per minute

17.

	W	X	Y	Z	
Ratio	1	4			
	3	12			x3
Ratio		3	2		
		12	8		x4
Ratio	3	12	8	3+12-8=7	
	3u	12u	8u	7u	

7u = 52.5

u = 7.5

Total area = 3u+12u+8u+7u = 30u = 30 x 7.5 = 225 = 15 x 15

Length of square = 15 cm

Ans: 15 cm

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