SA2

卍慈学校

RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2021 PRELIMINARY ASSESSMENT

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 20 August 2021

BOOKLET A

15 Questions
20 Marks
Duration of Paper 1 (Booklets A & B): 1 hour

Note:

1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
   (a) Page 1 to Page 6
   (b) Questions 1 to 15
6. 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 (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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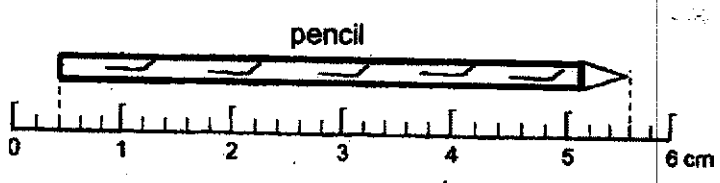
1 What does the digit 5 in 4.265 stand for?

(1) 5 ones
(2) 5 tenths
(3) 5 hundredths
(4) 5 thousandths

2 How many hundreds are there in ten million?

(1) 1000
(2) 10 000
(3) 100 000
(4) 1 000 000

3 What is the length of the pencil below?



(1) 5.1 cm
(2) 5.2 cm
(3) 5.3 cm
(4) 5.6 cm

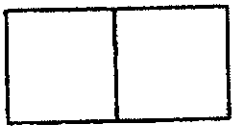
4 The opening hours of 3 cafes on each day are listed in table below.

Cafe A	Cafe B	Cafe C
0900 to 1530 1700 to 1930	10.30 a.m. to 8 p.m.	1300 to 2330

Which of the following timeslots would you find that all the 3 cafes are open for the day?

(1) 11 a.m. to 1 p.m.
(2) 5.30 p.m. to 7 p.m.
(3) 9.30 a.m. to 12 noon
(4) 7.30 p.m. to 11.30 p.m.

5 The figure below is formed by using 2 identical squares of side 7 cm. Find the area of the figure.



(1) 28 cm^2
(2) 42 cm^2
(3) 49 cm^2
(4) 98 cm^2

6 In a game, three participants obtained scores in terms of w as shown in the table below.

Participant	Ali	Ben	Cindy
Score	$w + 5$	$4w - 2$	$30 - 2w$

If $w = 2$, find their total score.

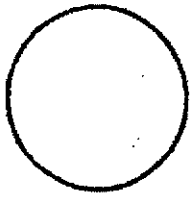
(1) 39
(2) 42
(3) 51
(4) 55

7 The table shows the number of people at a party. Half of them are girls and women. How many boys are there at the party?

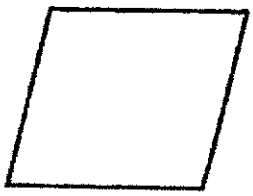
People	Men	Women	Boys	Girls
Number	7	9	?	15

(1) 24
(2) 17
(3) 16
(4) 15

8 Study the 4 figures below.

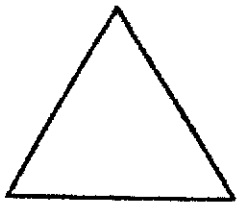


Circle



Rhombus

Parallelogram



Equilateral Triangle

How many of these figure(s) has/have at least 1 line of symmetry?

(1) 1
(2) 2
(3) 3
(4) 4

9 Mrs Wee had $\frac{3}{8}$ kg of sugar. She packed the sugar into bags such that the mass of each bag of sugar was $\frac{1}{20}$ kg. After packing the most number of such bags of sugar, how much sugar was left over?

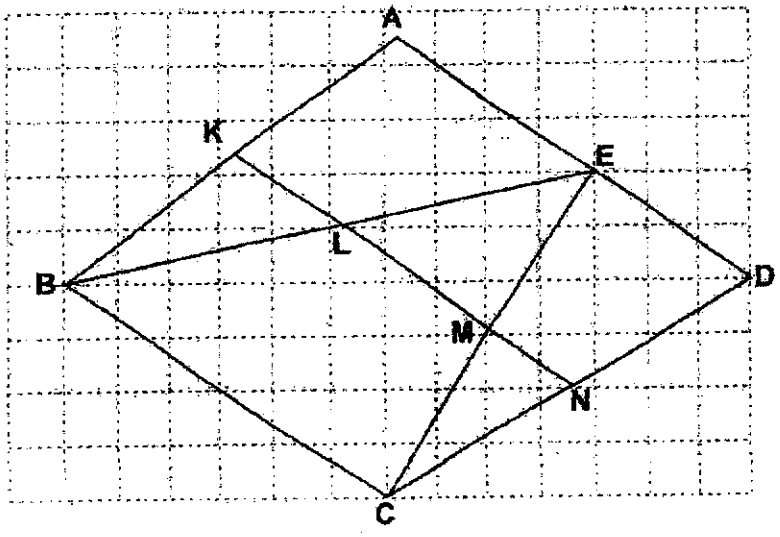
(1) $\frac{1}{2}$ kg

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

(3) $\frac{1}{40}$ kg

(4) $\frac{1}{60}$ kg

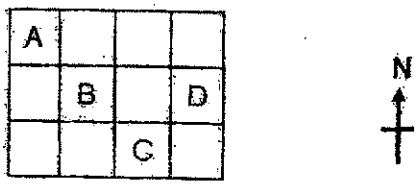
10 Study the figure drawn on the square grid below.



Which of the following describes the 2 listed figures correctly?

	Isosceles Triangle	Trapezium
(1)	CDE	AKND
(2)	ABE	BCNK
(3)	LME	BCDE
(4)	BCE	ABCD

11 On the square grid below, A, B, C and D are 4 towns.



Which of the following statements is correct?

(1) B is east of D.
(2) A is north of B.
(3) B is north-east of C.
(4) C is south-west of D.

12 The table shows the rate of charges for each game played at a carnival.

For the first 3 games	$4 per game
After the 3 games	$3 per game

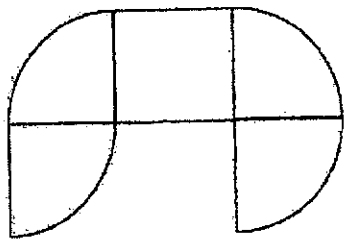
Janet went to the carnival with $40 for playing games. At most, how many games could she play?

(1) 10
(2) 12
(3) 13
(4) 14

13 Jim used a calculator to find the average of 4 numbers. The sum of the 4 numbers was calculated accurately. While dividing, he made a mistake by pressing 6 instead of 4. He obtained the incorrect answer of 72. What should be the correct average?

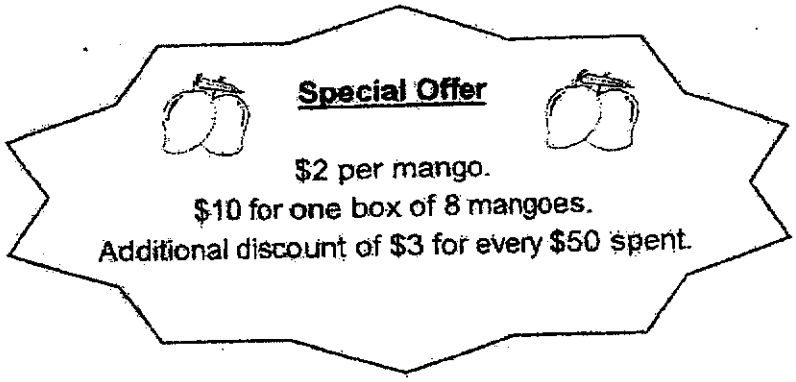
(1) 48
(2) 96
(3) 108
(4) 216

14 The figure is made up of 4 identical quarter circles and a square. The radius of each quarter circle is 5 cm. Using $\pi = 3.14$, find the perimeter of the figure.



(1) 35.7 cm
(2) 46.4 cm
(3) 51.4 cm
(4) 71.4 cm

15



Mrs Ling wanted to buy mangoes during the special offer. What was the least amount she had to pay to get 100 mangoes?

(1) $120
(2) $122
(3) $128
(4) $130

RED SWASTIKA SCHOOL

2021 PRELIMINARY ASSESSMENT

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 20 August 2021

BOOKLET B

15 Questions
25 Marks

In this booklet, you should have the following:
(a) Page 7 to Page 13
(b) Questions 16 to 30

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		20
BOOKLET B		25
TOTAL		45

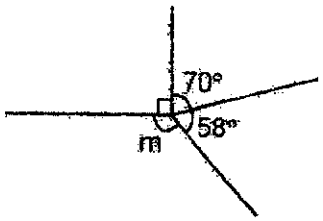
Parent's Signature : _____

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 Find the value of $15 - 3 + 12 \div 3 \times 4$.

Ans: _____

17 The figure below is formed by straight lines. Find $\angle m$.



Ans: _____

18 The table below shows the number of books borrowed by students in a class from Monday to Thursday.

Day	Mon	Tue	Wed	Thu
Number of books borrowed	20	18	7	5

What fraction of the total number of books for the 4 days were borrowed on Monday?

Ans: _____

3

19 Machine A makes twice as many bottles as Machine B in a minute. Together, both machines make 360 bottles in 4 minutes. How many minutes will it take Machine A by itself to make 360 bottles?

Ans: _____ min

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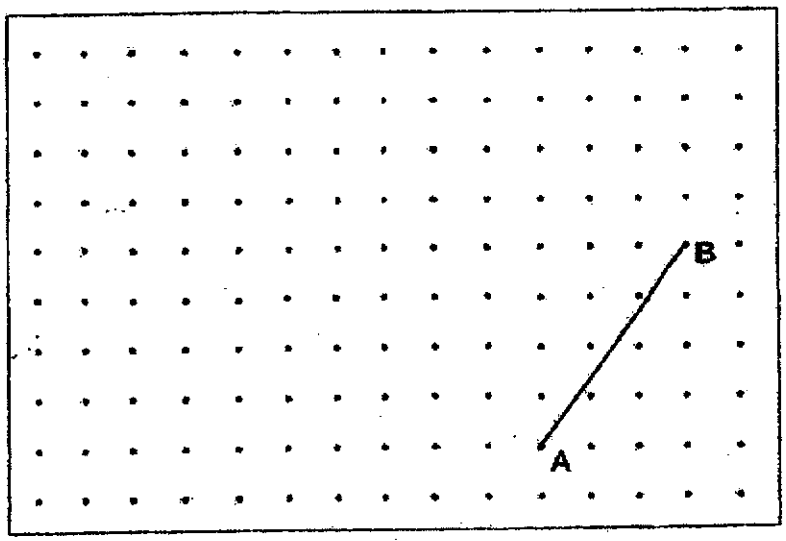
20 On the grid below, draw a straight line AC such that AC ⊥ AB and AC is twice as long as AB.



2

Questions 21 to 30 carry 2 marks each. Show your workings 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.

(20 marks)

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21 Find the value of

(a) $6.2 - 0.45$

(b) $23 \div 7$ as a decimal to nearest tenth

Ans: (a) _____

(b) _____

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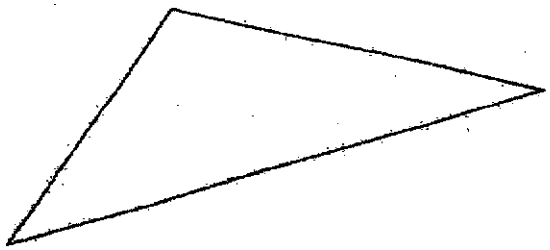
22 Study the triangle below. Measure and write down the value of

(a) the length of the longest side of the triangle to the nearest cm.

(b) the smallest angle in the triangle.



Ans: (a) _____ cm

(b) _____

4

23 List 2 equivalent improper fractions of $2\frac{3}{8}$.

Ans: _____ , _____

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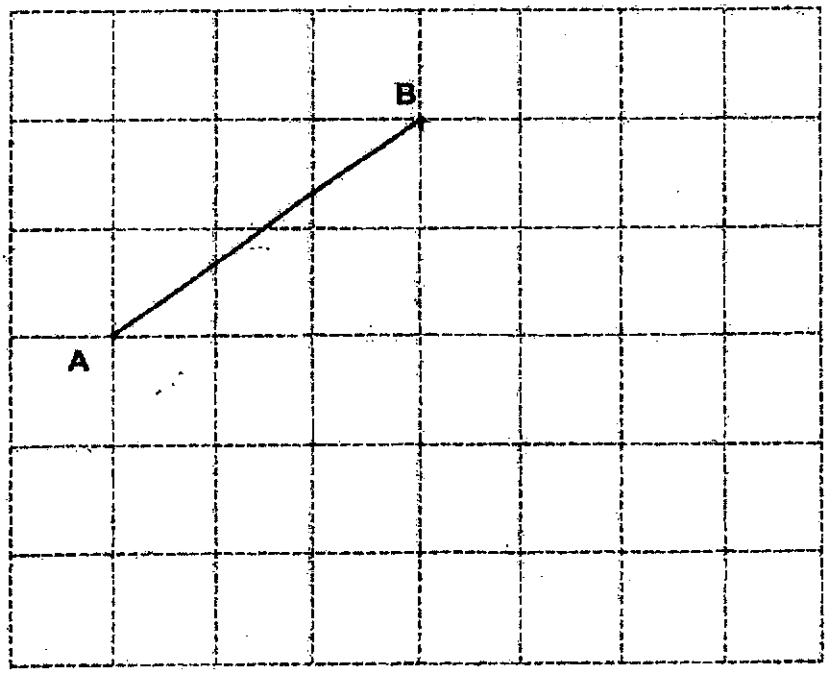
24 On the square grid below, AB is a straight line. Draw straight lines to complete an isosceles triangle ABC.

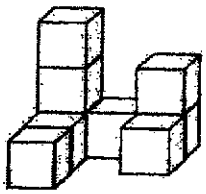


4

25 The sum of 2 numbers is 32. The sum of another 3 numbers is 36. What is the average of the 5 numbers?

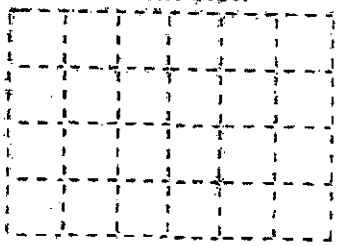
Ans: _____

26 The solid below is made up of 9 identical cubes.

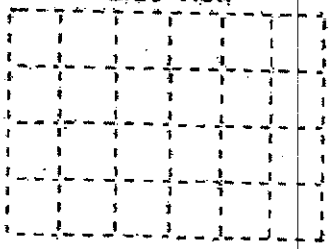


On the square grid below, draw the front and the side view of the solid.

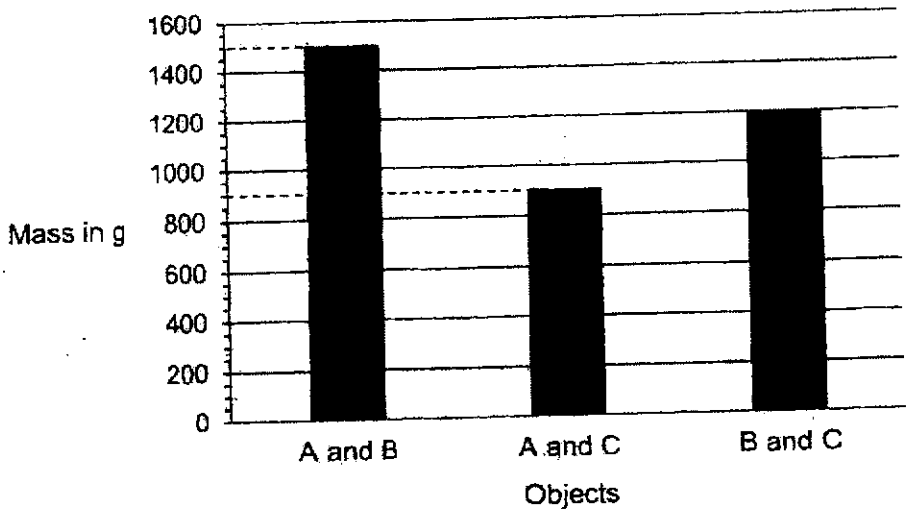
Front View



Side View



Use the information below to answer Questions 27 and 28.
There are three different objects A, B and C. The graph below shows the total mass of any two objects when they are weighed together.



27 What is the ratio of the total mass of objects A and B to the total mass of objects B and C? Give your answer in the simplest form.

Ans: _____

28 What is the average mass of the three objects?

Ans: _____ g

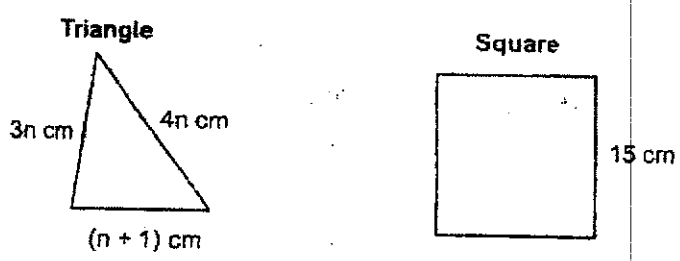
4

29 During a festive celebration, Bala and Tom helped to pack identical hampers for some families. Bala packed 10 hampers in 2.5 hours and Tom packed 12 hampers in 3 hours.

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

Statement	True	False	Not possible to tell
(a) At his packing rate, Bala would take 15 hours to pack 60 hampers.			
(b) On average, Tom took a longer time to pack a hamper than Bala.			

30 The perimeter of the square is 3 cm longer than the perimeter of the triangle as shown below. Find the value of n.



Ans: _____

END OF PAPER

4

卍慈学校

RED SWASTIKA SCHOOL

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2021 PRELIMINARY ASSESSMENT

MATHEMATICS
PAPER 2

Name : _____ ( )

Class : Primary 6 / _____

Date : 20 August 2021

17 Questions
55 Marks
Duration of Paper 2: 1 hour 30 minutes

Note:
1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this paper, you should have the following:
   (a) Page 1 to Page 15
   (b) Questions 1 to 17
6. You are allowed to use a calculator.

MARKS

	OBTAINED	POSSIBLE
PAPER 1		45
PAPER 2		55
TOTAL		100

Parent's Signature : _____

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

(10 marks)

1 Ken sold a total of 240 large and small watermelons. The price of each large watermelon is $8. He sold 64 more small watermelons than the large ones. What was the total amount he had collected from selling all the large watermelons?

Ans: $_____

2 A reading club has members made up of only students from Primary 5 and Primary 6. There are 30 students from Primary 5 and 90 students from Primary 6. $\frac{2}{5}$ of the Primary 5 students and $\frac{7}{15}$ of the Primary 6 students are girls. What fraction of the members are girls?

Ans: _____

4

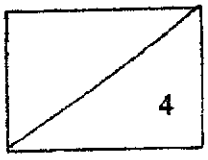
3 The figure is made up of 3 different circles. The radii of the three circles are 3 cm, 5 cm and 8 cm. Find the total **shaded** area of the figure in terms of π.

Ans: _____ cm^2

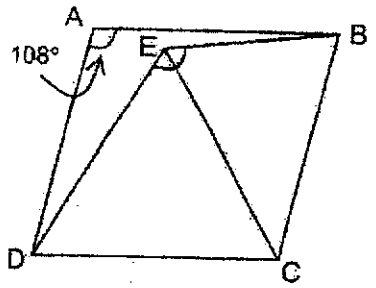
---

4 Jane bought 2y packets of 8 tarts each. Lina bought (y + 12) more tarts than Jane. Jane gave away 5y tarts and Lina ate 3 tarts. Find the total number of tarts left. Give your answer in terms of y.

Ans: _____



5 In the figure below, ABCD is a rhombus, CDE is an equilateral triangle and $\angle DAB = 108°$. Find $\angle DEB$.



Ans: _____ °

2

For Questions 6 to 17, show your workings clearly in the space below each question 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)

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6 A book has 30 pages with no missing pages. Two examples of the two page numbers facing each other are shown below.

(a) Page 4 and Page 5 is an example of pages facing each other, with their page numbers being multiples of 4 and 5 on each page.

State another two pages facing each other with their page numbers being multiples of 4 and 5 on each page.

(b) State a page number in this book that has only 6 factors? Find the sum of the 6 factors of the page number you have stated.

Ans: (a) Page _____, Page_____ [1]

(b) Page _____ [1]

Sum is _____ [1]

3

7 Helen received a coupon as shown below. A printing error had covered the price of prawns before discount.

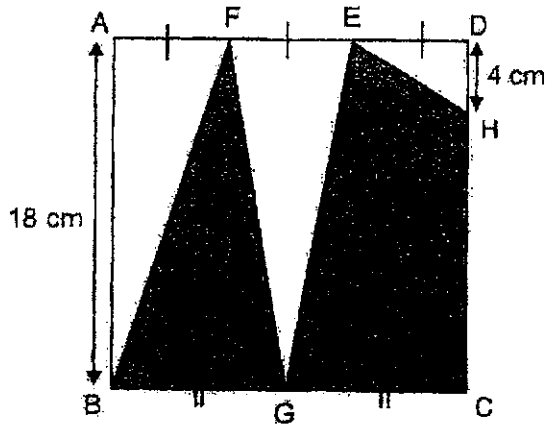
Membership coupon	
Usual Price before discount	**Member's Discount**
Prawns at $ ● per kg	30%
Fish at $13 per kg	40%

Helen went to purchase the 2 items. She paid a total of $48 to buy 1 kg of prawns and 4 kg of fish using the coupon. What was the price of 1 kg of prawns before discount?

Ans: _____ [3]

3

8 In the square ABCD below, AF = FE = ED and BG = GC. If AB = 18 cm and DH = 4 cm, find the total area of the shaded parts.

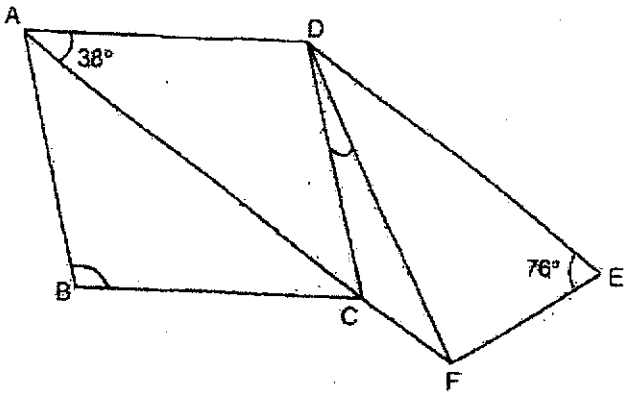


Ans: _____ [3]

3

9 In the figure below, ABCD is a rhombus, ADEF is a trapezium, DE = DF, ∠CAD = 38° and ∠DEF = 76°.

(a) Besides ADEF, name another trapezium.
(b) Find ∠ABC.
(c) Find ∠CDF.

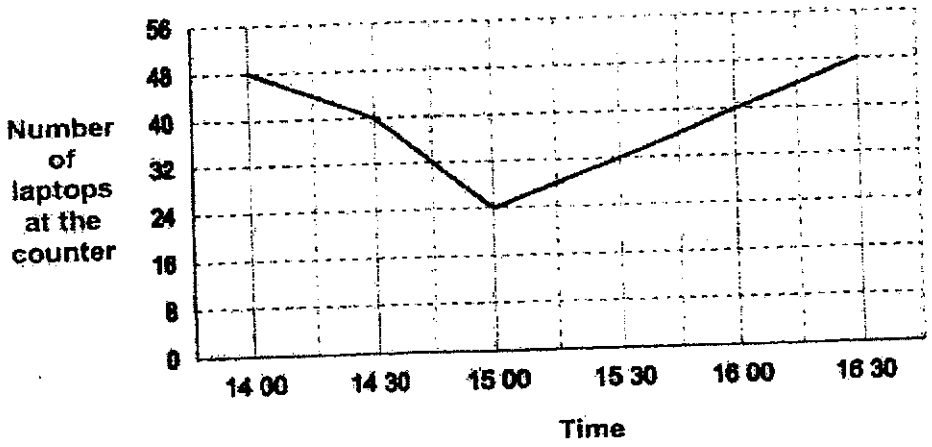


Ans: (a) Trapezium _____ [1]

(b) _____ [1]

(c) _____ [3]

10 A library had 48 laptops ready for loan at 14 00 at its counter. Laptops were issued out on loan only for the first hour. Then the borrowers could return the laptops from 15 00 to 16 30. The line graph shows the number of laptops at the counter from 14 00 to 16 30.



(a) What was the ratio of the number of laptops at the counter to the number of laptops loaned out at 16 00? Express your answer in its simplest form.

(b) What was the percentage decrease in the number of the laptops at the counter from 14 30 to 15 00?

(c) On average, how many laptops were returned to the counter per hour from 15 00 to 16 30?

Ans: (a)_____ [2]

(b)_____ [2]

(c)_____ [1]

5

11 Ali and Jim had some red and blue marbles. Jim had twice as many marbles as Ali. Ali had red and blue marbles in the ratio of 1 : 5. Jim had red and blue marbles in the ratio of 5 : 3. What was the ratio of their total number of red marbles to their total number of blue marbles?

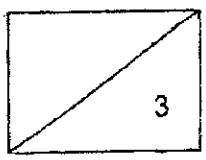
Ans: _____ [3]

3

12 In a basket, $\frac{3}{8}$ of the fruits are oranges, $\frac{1}{4}$ of the remainder are pears and the rest are apples. There are twice as many green apples as red apples.

What fraction of the fruits in the basket are green apples?

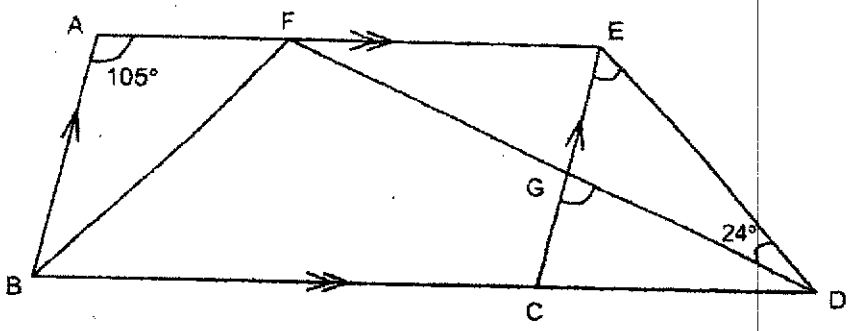
Ans: _____ [3]



13 The figure below is formed using straight lines with the following conditions: AE // BD, BA // CE, AE = BC, ED = EF, ∠EDG = 24° and ∠BAF = 105°.

(a) Find ∠CGD.

(b) Find ∠GED.



Ans: (a)_____ [1]

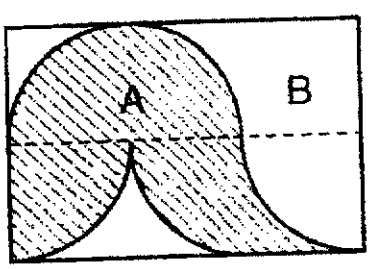
(b)_____ [1]

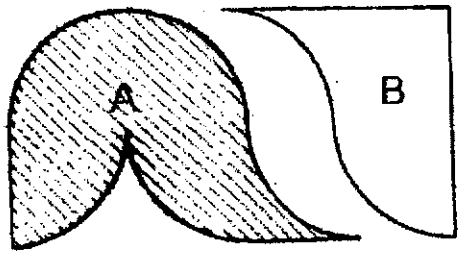
(c) Based on the figure above, fill in the blanks below with **parallelogram, rhombus** or **trapezium** so that the statement about ABCE and BFED is correct.

ABCE is a _____ and BFED is a _____. [1]

3

14 The rectangle below contains 5 identical quarter circles. The radius of each quarter circle is 10 cm. Shape A and Shape B were cut out as shown.





(a) Using the calculator value of π, find the area of Shape A. Round off the answer to 2 decimal places.

(b) Using $\pi = 3.14$, find the difference in the perimeter of Shape A and Shape B.

Ans: (a) _____ [2]

(b) _____ [2]

4

15 Siti spent 20% of her money on 1 bag and 2 T-shirts. The bag cost 3 times as much as each T-shirt. She spent 60% of the remaining money on a pair of shoes.

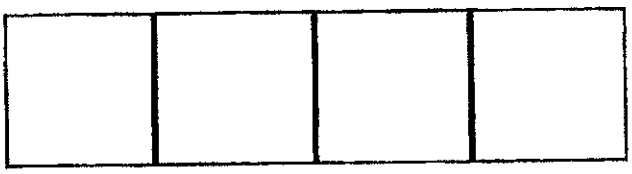
(a) What was the ratio of the price of the bag to the price of 1 T-shirt to the price of the pair of shoes?

(b) Lynn bought the same 4 items as Siti a few weeks later. The price of the shoes decreased by 25% and the price of the rest of items were not changed. Lynn paid $36 less than Siti. How much did Lynn pay for all the 4 items?

Ans: (a) _____ [2]

(b) _____ [2]

16 William joined 4 identical square frames as shown below. All the 13 sides of the square frames were tied with balloons.



He tied the same number of big balloons on each side of the square frame. Between every 2 big balloons, he tied 5 small balloons.

(a) If William had 30 big balloons, what was the greatest number of big balloons he could tie on each side of the square frame?

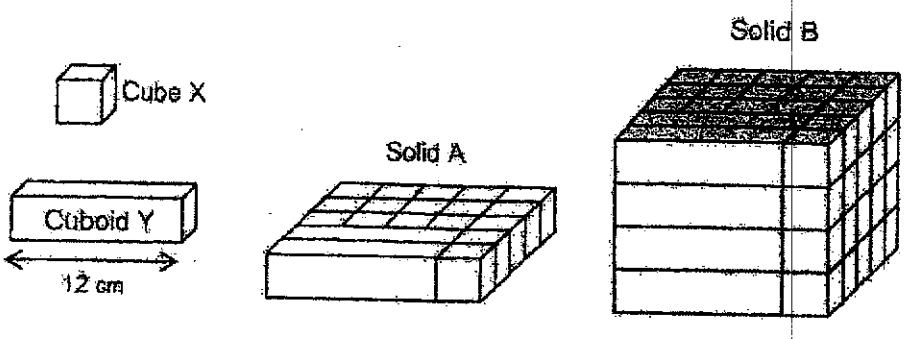
(b) How many big and small balloons would he need altogether if he tied 10 big balloons on each side of the square frame?

Ans: (a)_____ [1]

(b)_____ [4]

5

17 Tom built solid A by gluing together some identical cuboids Y and some identical cubes X as shown.



Tom built solid B by gluing 4 solids A together and then painted all the 6 faces of solid B.

(a) Find the volume of solid A.
(b) How many cubes X have none of the faces painted in solid B?
(c) How many cubes X have only 2 of the faces painted in solid B?

Ans: (a)_____ [2]

(b)_____ [1]

(c)_____ [1]

END OF PAPER

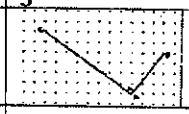
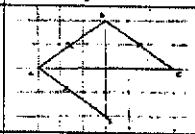
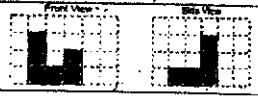
ANSWER KEY

YEAR : 2021
LEVEL : PRIMARY 6
SCHOOL : RED SWASTIKA
SUBJECT : MATHEMATICS
TERM : PRELIMINARY

BOOKLET A (PAPER 1)

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

BOOKLET B (PAPER 1)

Q16	28	Q17	142
Q18	$\frac{2}{5}$	Q19	6
Q20		Q21	a) 5.75 b) 3.3
Q22	a) 8 b) 28	Q23	$\frac{19}{8}, \frac{38}{16}$
Q24		Q25	13.6
Q26		Q27	5 : 4
Q28	600	Q29	a) True b) False
Q30	7		

PAPER 2

Q1	\$8 x 88 = \$704	Q2	$\frac{9}{20}$
Q3	π x 8 x 8 - π x 5 x 5 = 64 π - 25 π = 39 π $\pi r3$ = π x 3 x 3 = 9 π 39 π + 9 π = 48 π	Q4	(28y+9)
Q5	BCE - > 108° – 60° = 48°	Q6	a) Page 24 ,Page 25

	60 + 66 = 126		b) Page 12 Sum is 28
Q7	$13 x 4 = $52 52 ÷ 10 x 6 = $31.20 $48 - $31.20 = $16.80 $16.80 ÷ 7 x 10 = $24	Q8	204cm2
Q9	a) DEFC b) 104° c) 10°	Q10	a) 5 : 1 b) 40% c) 16
Q11	12u x 2 = 24u 15u + 2u = 17u 9u + 10u = 19u 17 : 19	Q12	$\frac{1}{4} x \frac{5}{8} = \frac{5}{32}$ $1 - \frac{3}{8} - \frac{5}{32} = \frac{15}{32}$ $3u : \frac{15}{32}$ $1u : \frac{5}{32}$ $2u : \frac{5}{16}$
Q13	a) 180° – 105° = 75° 180° – 75° – 24° = 81° b) 180° – 24° – 24° = 132° 132° – 75° = 57° c) Parallelogram , Trapezium	Q14	a) 335.62cm2 b) 27.1cm
Q15	a) 3 : 1 : 2 b) $168	Q16	a) 3 b) 699
Q17	a) $\frac{12}{4}$ = 3cm 12 + 3 = 15cm 3 x 5 = 15cm 15 x 15 x 3 = 675cm2 b) 12 c) 22		

2ND