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AT / GAL / WSW / EL / LYL

SINGAPORE CHINESE GIRLS' SCHOOL

FIRST SEMESTRAL ASSESSMENT 2021

PRIMARY 6

MATHEMATICS
PAPER 1

BOOKLET A

Name : _____ ()

7 May 2021

Class : Primary 6 SY / C / G / SE / P

		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)**

1. $300\,000 + 2500 + 10 =$ _____

- (1) 325 100
- (2) 302 600
- (3) 302 510
- (4) 300 350

2. What is the value of $255 \div 50$

- (1) 2.55
- (2) 5.1
- (3) 25.5
- (4) 51

3. Find the value of $\frac{2}{3} \div \frac{4}{7}$

- (1) $\frac{8}{21}$
- (2) $\frac{21}{8}$
- (3) $\frac{6}{7}$
- (4) $\frac{7}{6}$

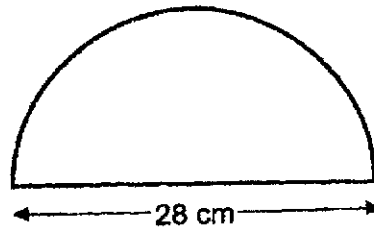
4. Peter gave away 20% of his marbles and had 200 marbles left. How many marbles did he have at first?
- (1) 10
 - (2) 50
 - (3) 250
 - (4) 1000
5. A plank was cut into two pieces in the ratio 1 : 5. Given that the longer piece of plank was 40 cm, find the length of the shorter plank.
- (1) 8 cm
 - (2) 32 cm
 - (3) 48 cm
 - (4) 240 cm
6. Machine A prints 10 000 cards every 30 minutes. Machine B prints 8000 cards every 30 minutes. How many more cards does Machine A print more than Machine B in 1 hour?
- (1) 2000
 - (2) 4000
 - (3) 20 000
 - (4) 36 000

7. What is the value of $20 - 3x + 2$ when $x = 4$?

- (1) 6
- (2) 8
- (3) 10
- (4) 12

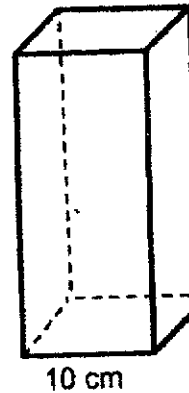
8. The diameter of the semi-circle below, not drawn to scale, is 28 cm. Find the perimeter of the semi-circle. Express your answer in terms of π .

- (1) (14π) cm
- (2) $(14\pi + 28)$ cm
- (3) (28π) cm
- (4) $(28\pi + 28)$ cm



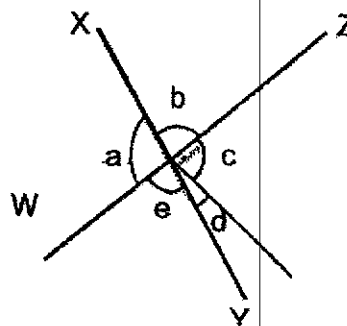
9. The figure below (not drawn to scale) shows a square base container of side 10 cm. Water is filled to a height of 12 cm. What is the volume of water in the cuboid?

- (1) 120 cm^3
- (2) 480 cm^3
- (3) 1200 cm^3
- (4) 1440 cm^3



10. In the figure below, XY and WZ are straight lines. Which angles **do not** add up to 180° ?

- (1) $\angle a + \angle b$ ✓
 (2) $\angle a + \angle e$ ✓
 (3) $\angle c + \angle d + \angle e$
 (4) $\angle a + \angle e + \angle d$

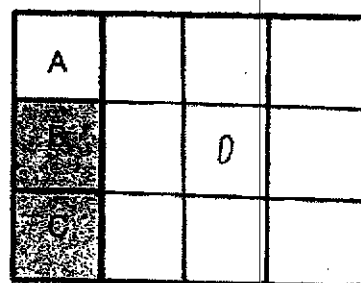


11. Rosy, Suzy and Tabby shared the cost of a present which is \$90. Rosy paid thrice as much as Suzy. Tabby paid the same amount as Suzy. Which of the following number sentences shows the amount Rosy paid for the present?

- (1) $\$90 \div (3 \times 3)$
 (2) $\$90 \div (5 \times 3)$
 (3) $\$90 \div 3 \times 3$
 (4) $\$90 \div 5 \times 3$

12. The figure below is made up of 4 squares A, B, C and D. What is the ratio of the shaded area to the total area?

- (1) 2 : 9
 (2) 2 : 3
 (3) 1 : 5
 (4) 1 : 6



13. Jenny paid \$48 for a wallet during a sale. She was given a discount of \$32. What percentage discount was given for the wallet?

- (1) 40 %
- (2) 55 %
- (3) 60%
- (4) $66\frac{2}{3}$ %

14. Benny wants to make some banners. Each banner is 2 m in length. He bought bales of cloth each measuring 11 m. How many banners can Benny make with 4 bales of cloth? Note that no banners are made by joining pieces of cloth together.

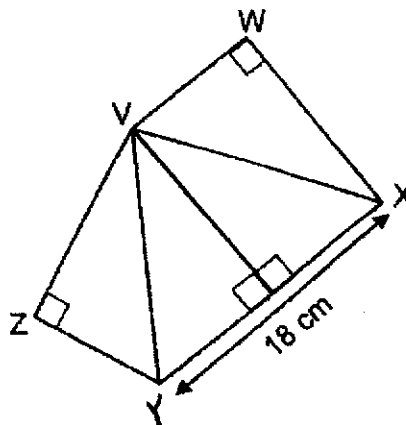
- (1) 15
- (2) 20
- (3) 22
- (4) 44



1 bale of cloth

15. VWXYZ is made up of 4 identical triangles. The perimeter of figure VWXYZ is 60 cm. Find the area of 1 triangle.

- (1) 54 cm^2
- (2) 108 cm^2
- (3) 216 cm^2
- (4) 590 cm^2



End of Booklet A

AT / GAL / WSW / EL / LYL

SINGAPORE CHINESE GIRLS' SCHOOL

FIRST SEMESTRAL ASSESSMENT 2021

PRIMARY 6

MATHEMATICS
PAPER 1

BOOKLET B

Name : _____ ()

7 May 2021

Class : Primary 6 SY / C / G / SE / P

Paper 1	Mark attained	Max Mark
Booklet B		25

15 Questions
25 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 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)

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column

16. Express 0.05 as a percentage.

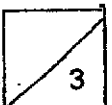
Ans: _____ %

17. 5 km 45 m = _____ km

Ans: _____ km

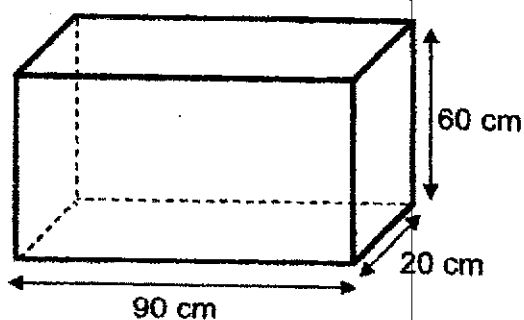
18. Express $45 + 19y - 3y - 5 + 10y$ in its simplest form.

Ans: _____



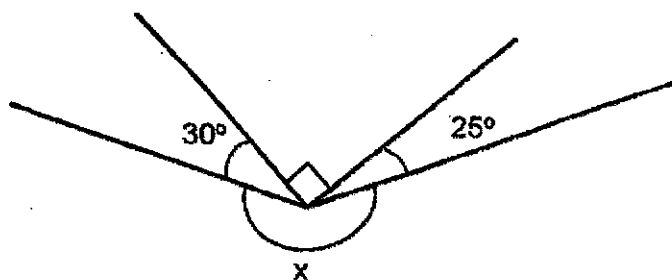
19. A pail, filled with 37 litres of water is poured into the tank below. How much more water is needed to fill the tank?

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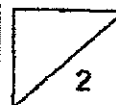


Ans: _____ litres

20. Find $\angle x$ in the figure below.



Ans: _____ °



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)

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21(a) Express $\frac{5}{8}$ as a decimal.

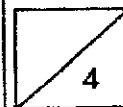
21(b) Find the value of 0.24×6

Ans: (a) _____

(b) _____

22. Abdul baked a pizza and ate $\frac{1}{5}$ of it. He gave $\frac{1}{3}$ of the remainder to his sister.
What fraction of the whole pizza was left?

Ans: _____



23. Jeremy bought some chocolate and kaya doughnuts. 40% of the doughnuts are chocolate. His sister gave him the same number of chocolate doughnuts bought.

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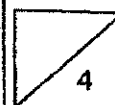
- (a) Did the percentage of kaya doughnuts increase, decrease or remain the same?
- (b) Find the ratio of chocolate doughnuts to kaya doughnuts Jeremy had in the end. (Give your answer in the simplest form.)

Ans: (a) _____

(b) _____

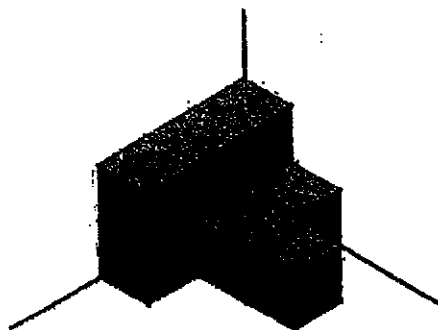
24. At a stationery store, the price of a pencil is $\frac{3}{5}$ the price of a notebook. The price of an eraser is half the price of the pencil. What is the ratio of the price of the pencil to the price of the notebook to the price of the eraser?

Ans: _____

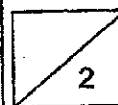


- 25 The solid is made up of identical 2-cm cubes. Petrina painted the entire surface including the bottom of the solid. Find the surface area of the solid that was painted.

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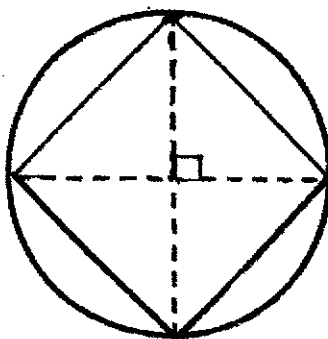


Ans: _____ cm^2



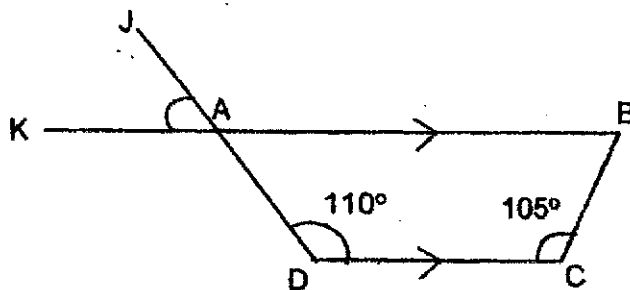
26. The figure below, not drawn to scale, shows a square within a circle. Given that the square has an area of 196 cm^2 , find the area of the circle. (Give your answer in terms of π .)

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Ans: _____ cm^2

27. In the figure below, KAB and JAD are straight lines. $ABCD$ is a trapezium. $\angle ADC = 110^\circ$ and $\angle BCD = 105^\circ$. Find $\angle JAK$.

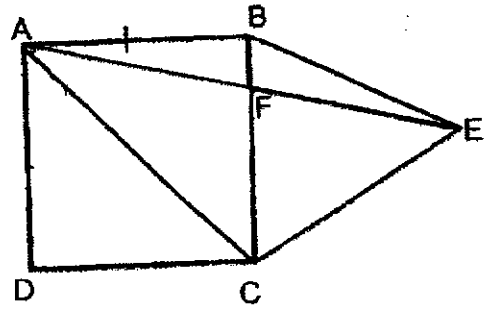


Ans: _____ $^\circ$



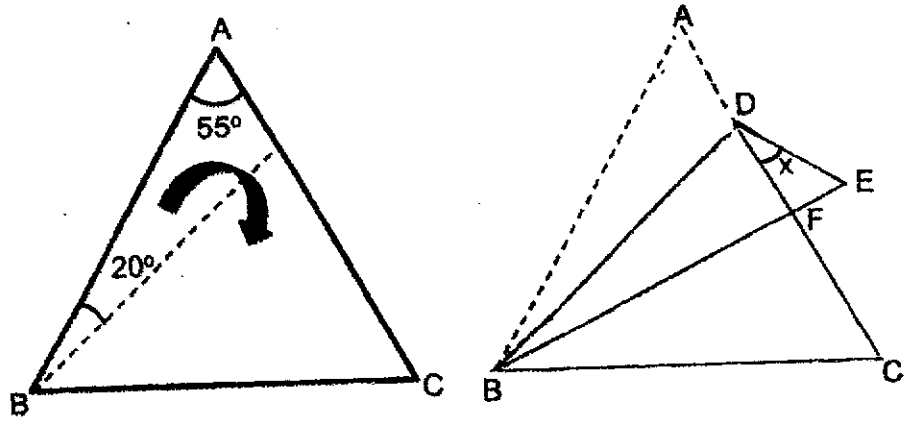
28. ABCD is a square and BEC is an equilateral triangle.
Find $\angle AFC$.

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Ans: _____°

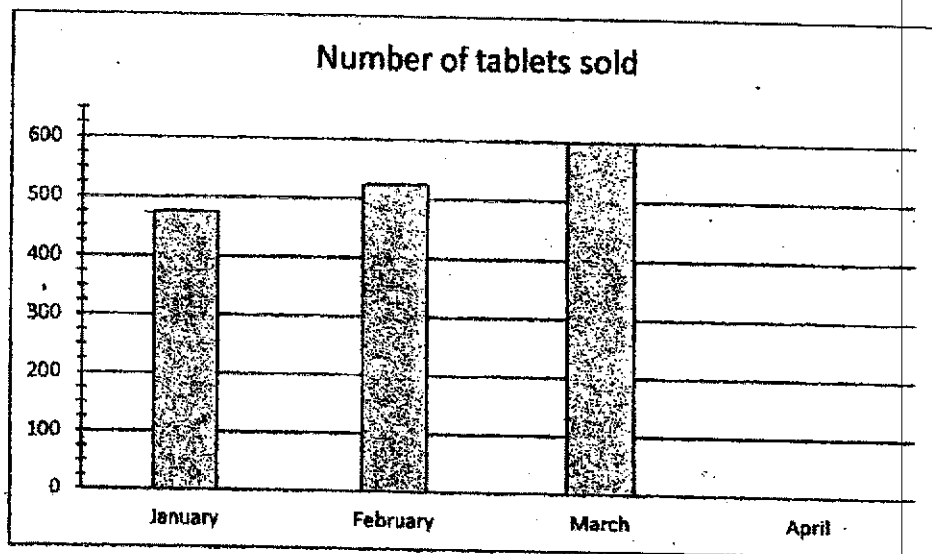
29. A triangular piece of paper, not drawn to scale, is folded along the dotted line as shown below. Find $\angle x$.



Ans: _____°

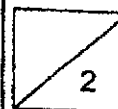


30. The bar graph below shows the number of tablets sold over 4 months.



The number of tablets sold in the month of April was 20% the total number of tablets sold over 4 months. Draw the bar for the number of tablets sold in the month of April in the graph above.

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End of Booklet B

AT / GAL / WSW / EL / LYL

SINGAPORE CHINESE GIRLS' SCHOOL
FIRST SEMESTRAL ASSESSMENT 2021

PRIMARY 6
MATHEMATICS
PAPER 2

Name : _____ ()

7 May 2021

Class : Primary 6 SY / C / G / SE / P

	Mark	Max Mark
Paper 2		55

Parent's Signature

17 Questions
55 Marks

Total Time for Paper 2: 1 h 30 min

INSTRUCTIONS TO CANDIDATES

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Follow all instructions carefully.

Answer all questions.

You are allowed to use the calculator

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)

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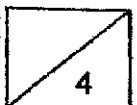
1. Eliza ate $\frac{1}{5}$ of a pizza and 3 friends shared the remaining pizza equally. What fraction of the pizza did each of her friends receive?

Ans: _____

2. 4 students, A, B, C and D took part in a 100 m race and the time taken to complete the race is recorded below. The average time taken by the 4 boys is 16 seconds. What is the time taken by Student C to complete the race?

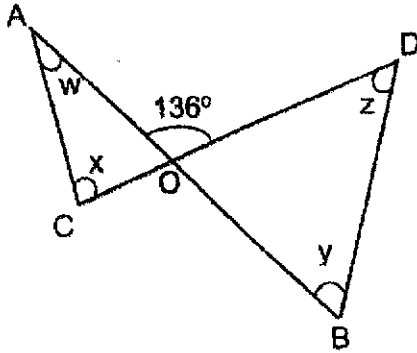
Student	Time taken (seconds)
A	15
B	18
C	
D	16

Ans: _____ s



3. Line AB and CD are straight lines. Find the sum of $\angle w + \angle x + \angle y + \angle z$.

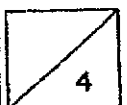
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Ans: _____°

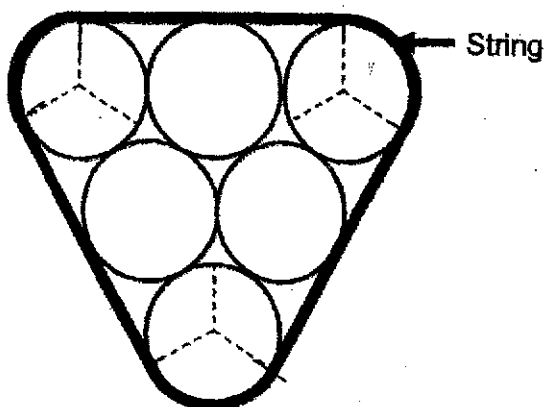
4. The number of books Tommy had to the number of books Kathy had was in the ratio 4 : 9. Kathy gave 4 books to Tommy and the ratio of the number of books Tommy had to the number of books Kathy had become 1 : 2. How many books did Kathy have in the end?

Ans: _____

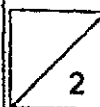


5. A string is wrapped around 6 identical cylinders as shown below. The radius of each cylinder is 12 cm. Using the calculator value of π , find the length of the string, correct to 2 decimal places.

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Ans: _____ cm



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. (45 marks)

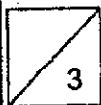
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6. A taxi company charges the following rates:

Distance travelled	Charges
First km or less	\$2.80
Every 400 m or part thereof	28 cents

Jenny took a taxi to her aunty's house which was 4.8 km away.
How much is her taxi fare?

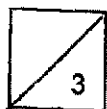
Ans: _____ [3]



7. Khairul has two rectangular boxes of different sizes. The length, breadth and height of the large box is two times the length, breadth and height of the small box. He is able to pack 48 identical cubes into the small box. How many identical cubes can fit into the larger box?

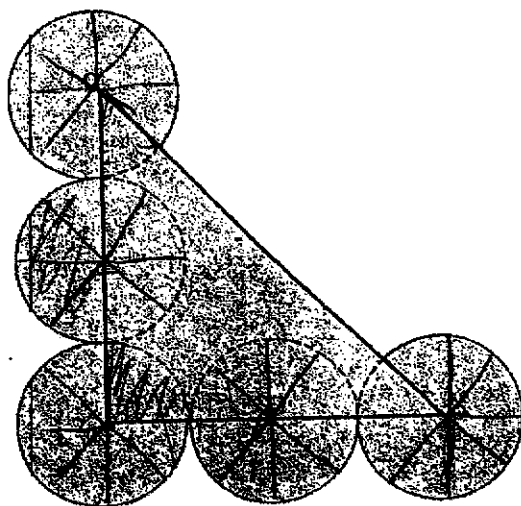
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Ans : _____ [3]

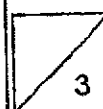


8. The figure below is made up of a right angle isosceles triangle and 5 identical circles of diameter 4 cm. O is the centre of the circle. Find the area of the figure. (Take $\pi = 3.14$)

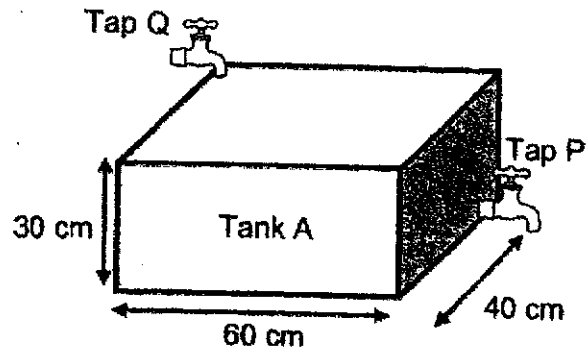
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Ans : _____ [3]

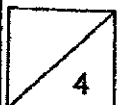


9. The dimension of Tank A is 60 cm by 40 cm by 30 cm. Tap Q filled the tank at 5 litres per minute for the first 3 minutes before Tap P was turned on to drain water from the tank at a rate of 2 litres per minute. How long will it take to fill the tank completely from the start?



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Ans : _____ [4]



10. Mrs Tan gave some sweets to a group of children. If she gave 15 sweets to each child, there will have a shortage of 10 sweets. If she gave 10 sweets to each child, there will be 30 sweets left. How many children are there in the group?

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Ans : _____ [3]

11. Mr Li spent $\frac{1}{3}$ of his money on 5 shirts and 14 ties. The cost of each shirt is 4 times the cost of each tie. He bought additional ties as gifts with $\frac{1}{4}$ of the remaining money. How many ties did he buy altogether?

Ans: _____ [4]



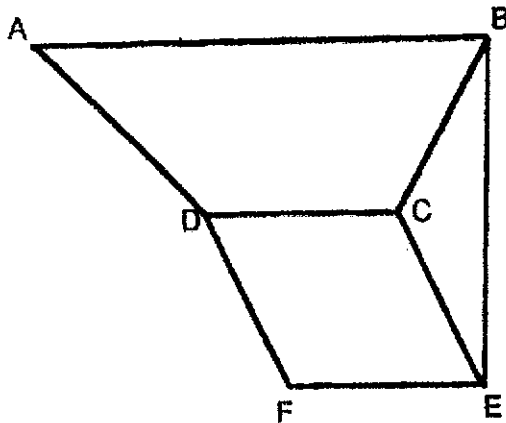
12. Mr Tan had 460 stamps. 20% of the stamps are Singapore stamps. He then bought more Singapore stamps and his collection of Singapore stamps increased to 60%. How many Singapore stamps did he buy?

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Ans: _____ [4]



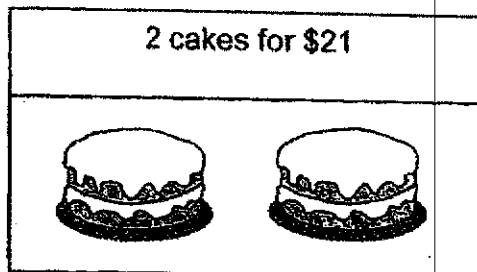
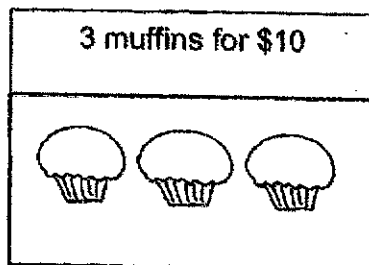
13. The figure below, not drawn to scale, is made up of a trapezium $ABCD$, a rhombus $DCEF$ and a triangle CBE .



Mary made the following observations. Indicate if the observations made are true or false by putting a $\checkmark$ in the correct column below. [3]

No	Statement	True	False	Not possible to tell
a.	The sum of $\angle ABC$ and $\angle CEF$ is 180° .			
b.	$\angle DCE = \angle DFE$			
c.	$\angle CBE = \angle CEB$			

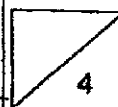
14. Joanne and Chloe bought some cakes and muffins at the prices below



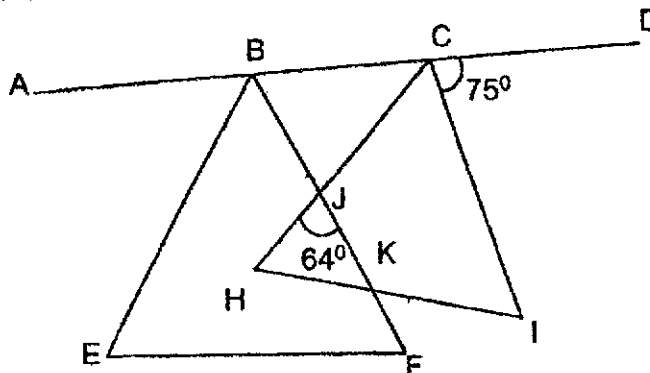
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Joanne bought an equal number of muffins and cakes and spent \$258 more on the cakes than the muffins. How many muffins did she buy altogether?

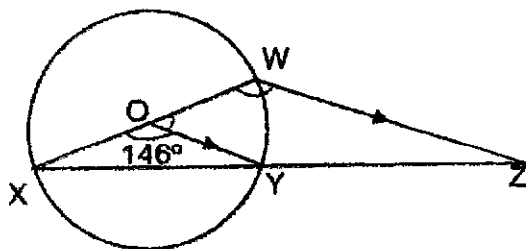
Ans : _____ [4]



- 15a. In the diagram below, ABCD is a straight line. There are two equilateral triangles, BEF and CHI. Given that $\angle DCI = 75^\circ$ and $\angle HJK$ is 64° .
Find $\angle CBJ$.

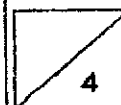


- 15b. In the figure below, O is the centre of the circle. XYZ is a straight line. XWZ is a triangle and OY is parallel to WZ. Find $\angle WZY$.



Ans: (a) _____ [2]

(b) _____ [2]



16. Aisha and Mimi saved money for a donation drive. Aisha started saving 2 weeks before Mimi. She saved \$1.50 a day. Mimi saved \$1.75 a day.
- (a) How many days will it take for Mimi to save the same amount of money as Aisha?
- (b) When Mimi saved \$15 more than Aisha, how much would Aisha have?

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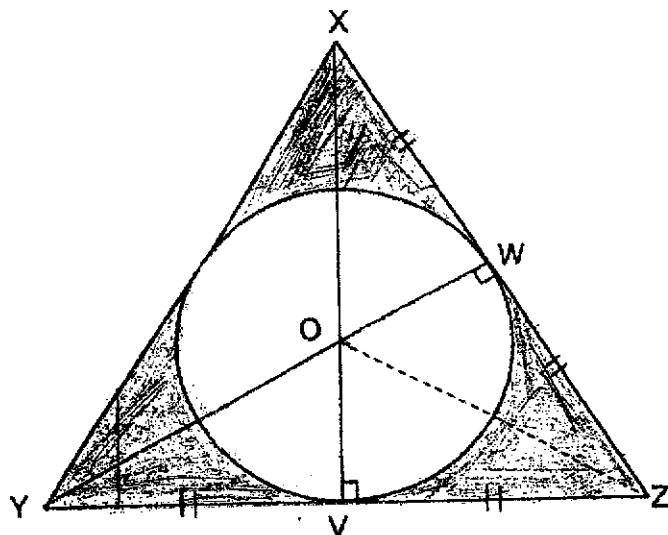
Ans: (a) _____ [2]

(b) _____ [3]



17. In the diagram not drawn to scale below, XYZ is an equilateral triangle. Given that $XW = WZ = ZV = YV = 5$ cm. O is the centre of the circle with a radius of 3 cm and the area of the sector OYW is $\frac{1}{3}$ the area of the circle. Find the area of the shaded part. (Take π to be 3.14).

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Ans: _____ [5]

End of Paper 2



ANSWER KEY

YEAR : 2021
 LEVEL : PRIMARY 6
 SCHOOL : SCGS
 SUBJECT : MATHEMATICS
 TERM : MID-YEAR EXAM

BOOKLET A (PAPER 1)

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

BOOKLET B (PAPER 1)

Q16	$0.05 \times 100\% = 5\%$
Q17	$45m = 45 \div 1000 = 0.45$ $5000 + 0.045 = 5.045km$
Q18	$45 + 19y - 3y - 5y + 10y$ $= 26y + 40$
Q19	Volume of tank $= 60 \times 20 \times 90$ $= 108000 = 108 \text{ litres}$ $108 - 37 = 71 \text{ litres}$
Q20	$< x - 360^\circ - 90^\circ - 30^\circ - 25^\circ = 215^\circ$
Q21	a) $\frac{5}{8} = 0.625$ b) $0.24 \times 6 = 1.44$
Q22	Ate : $\frac{1}{5} = \frac{3}{15}$ Sister : $\frac{1}{3} \times \frac{4}{5} = \frac{4}{15}$ Left = $1 - \frac{3}{15} - \frac{4}{15} = \frac{8}{15}$
Q23	a) Decrease b) Choc : Kaya 4 : 3
Q24	6 : 10 : 3
Q25	Area of 1 square $= 2 \times 2 = 4cm^2$ Number of square painted $= 6 + 20 + 6$ $= 32$ Surface area painted $= 32 \times 4 = 128cm^2$

Q26	$\frac{1}{4} \text{ of } \blacksquare = 196 \div 4 = 49cm^2$ $\frac{1}{2} \times r \times r = 49$ $r \times r = 49 \times 2 = 98$ $\pi \times r \times r = \pi \times 98 = 98cm^2 \quad 98\pi cm^2$
Q27	$< DAB = 180^\circ - 110^\circ = 70^\circ$
Q28	$< ABE = 90^\circ + 60^\circ = 150^\circ$ $< BAE = (180^\circ - 150^\circ) \div 2 = 15^\circ$ $< FAD = 90^\circ - 15^\circ = 75^\circ$ $< AFC = 180^\circ - 75^\circ = 105^\circ$
Q29	$< X = 105^\circ - 75^\circ = 30^\circ$
Q30	$80\% \rightarrow 475 + 525 + 600 = 1600$ $1\% \rightarrow 1600 \div 80 = 20$ $20\% \rightarrow 20 \times 20 = 400$

PAPER 2

Q1	$\frac{4}{5} \div 3 = \frac{4}{15}$
Q2	Total time taken = $16 \times 4 = 64$ Student C = $64 - 15 - 18 - 16 = 15s$
Q3	$\angle AOC = (360^\circ - 136^\circ - 136^\circ) \div 2 = 44^\circ$ $\angle W + \angle X + \angle Y + \angle Z = (180^\circ - 44^\circ) \times 2 = 272^\circ$
Q4	$1u = 4$ $26u = 26 \times 4 = 104$
Q5	Arc length of string = $\pi \times 24 = 75.40cm$ Length of string = $75.40 + (12 \times 12)$ $= 219.40cm$
Q6	$3.8km = 3800m$ $3800 \div 400 = 9\frac{1}{2} \approx 10$ $10 \times 0.28 = 2.80$ Total fare = $2.80 + 2.80 = \$5.60$
Q7	$48 \times 8 = 384$
Q8	Area of circles = $\frac{1}{8} \times 3.14 \times 2 \times 2 \times 28$ $= 43.96cm^2$ Area of figure $= 43.96 + (\frac{1}{2} \times 8 \times 8) = 75.96cm^2$
Q9	Volume of tank = $30 \times 60 \times 40 = 72000cm^3$ $5L = 5000cm^3$, $2L = 2000cm^3$ $1min \rightarrow 3000cm^3$ Volume ($1^{st} 3min$) = $5 \times 3 = 15L$ Volume needed aft 3min = $72 - 15 = 57L$ Time needed = $57 \div 3 = 19min$ Total time needed = $19 + 3 = 22min$
Q10	$15 - 10 = 5$ $30 + 10 = 40$ $40 \div 5 = 8$
Q11	$\frac{1}{3} = \frac{2}{6}$ $\frac{1}{4} \times \frac{2}{3} = \frac{1}{6}$ $(5 \times 4) + (14 \times 1) = 34$ $2u = 34$ $1u = 34 \div 2 = 17$ $17 + 14 = 31$

Q12	Sg stamps at first = $\frac{20}{100} \times 460 = 92$ Rest of stamps $= 460 - 92 = 368$ 40% $\rightarrow 368$ 10% $\rightarrow 92$ 60% $\rightarrow 92 \times 6 = 552$ No. of sg stamps bought $= 552 - 92 = 460$
Q13	a) False b) True c) Not possible to tell
Q14	6 muffins cost = $10 \times 2 = 20$ 6 cakes cost = $21 \times 3 = 63$ Diff = $63 - 20 = 43$ $258 \div 43 = 6$ $6 \times 6 = 36$
Q15	a) $\angle BCI = 180^\circ - 60^\circ - 75^\circ = 45^\circ$ $\angle CBJ = 180^\circ - 64^\circ - 45^\circ = 71^\circ$ b) $\angle OYX = (180^\circ - 146^\circ) \div 2 = 17^\circ$
Q16	Alisha in 2 weeks a) $= \$1.50 \times 14 = \21 Diff between Alisha & Mimi = $\$0.25$ Number of days for mimi to catch up $= 21 \div 0.25 = 84days$ b) Alisha = $\$21 + \1.50×84 $= \$147$ No. of days mimi to save \$15 more $= 15 \div 0.25 = 60$ Alisha = $\$147 + (\$1.50 \times 60)$ $= \$237$
Q17	Area of shaded part $= [(\frac{1}{2} \times 5 \times 3) - (\frac{1}{6} \times 3.14 \times 3 \times 3)] \times 6$ $= 16.74cm^2$