Anglo-Chinese School
(Primary)
A Methodist Institution
(Founded 1886)

2023 P6 PRELIMINARY EXAM
MATHEMATICS
PAPER 1 (BOOKLET A)
PRIMARY SIX

Name: _____( ) Class: Primary 6

Date: 21 August 2023 Duration of Booklets A & B: 1 hour

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of **10** printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Shade your answers on the Optical Answer Sheet (OAS) provided.
5. You are not allowed to use a calculator.

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet (OAS). (20 marks)

1. Which one of the following is the same as $\frac{3}{8} \div 5$?

(1) $\frac{3}{8} \times \frac{1}{5}$

(2) $\frac{3}{8} \times 5$

(3) $\frac{8}{3} \times \frac{1}{5}$

(4) $\frac{8}{3} \times 5$

2. Find the sum of all the factors of 16.

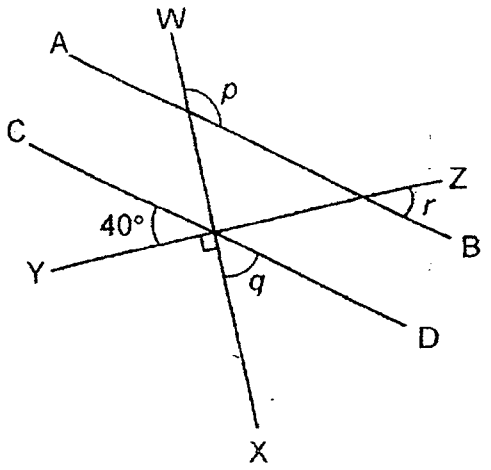
(1) 30

(2) 31

(3) 34

(4) 35

3. In the figure below, AB, CD, WX and YZ are straight lines.
Which one of the following statements is correct?



(1) $\angle r = \angle q$

(2) $\angle q = 40°$

(3) $\angle p = 130°$

(4) $\angle p = 180° - \angle r$

4. Which one of the following statements is incorrect?

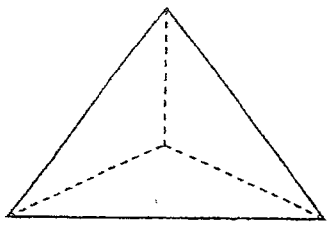
(1) $0.25 = \frac{1}{4}$

(2) $\frac{3}{8} = 0.375$

(3) $\frac{1}{9}$ is more than 0.12

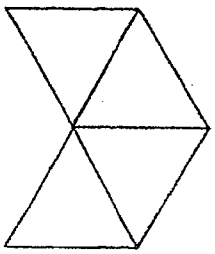
(4) $\frac{144}{11}$ is more than 13

5. The figure below shows a solid.

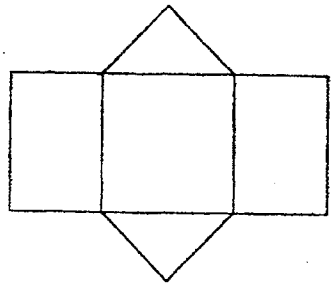


Which one of the following is a net of the solid?

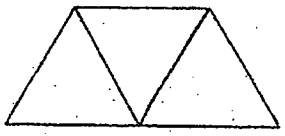
(1)



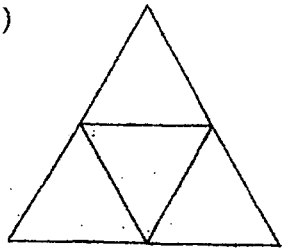
(2)



(3)



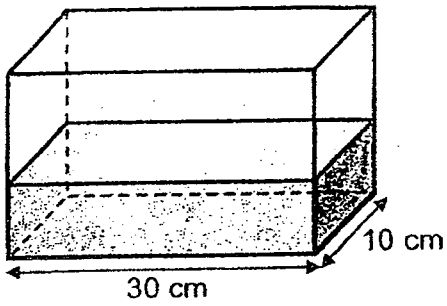
(4)



6. Which one of the following is most likely the mass of a laptop?

(1) 2.095 g
(2) 2.95 kg
(3) 20.95 kg
(4) 29.5 g

7. The figure below shows a rectangular tank containing 1500 cm^3 of water. Find the height of the water level in the tank.



(1) 0.005 m
(2) 0.05 m
(3) 0.5 m
(4) 5 m

8. Mingfa took 20 minutes to travel from City A to City B. His average speed was 66 km/h. Find the distance between the two cities.

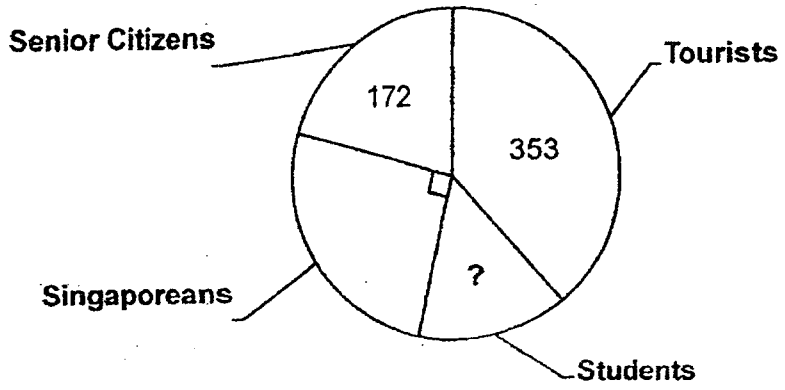
(1) 22 km
(2) 44 km
(3) 198 km
(4) 1320 km

9. The average allowance of 3 siblings is $34. The eldest sibling received $50. The other two siblings received the same amount of money. How much did each of the other two siblings receive?

(1) $18
(2) $25
(3) $26
(4) $52

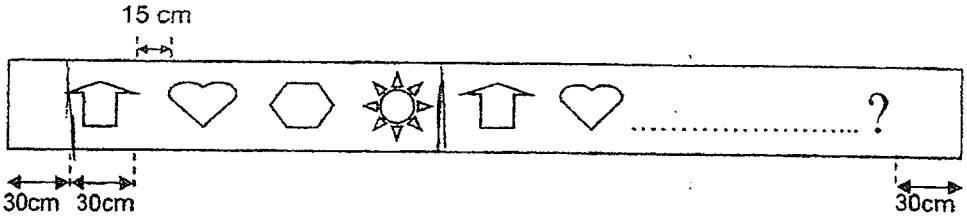
10. The following pie chart shows the number of tickets sold on a certain day. The total number of tickets sold on that day was 860. Find the number of student tickets sold on that day.

SALES OF TICKETS



(1) 120
(2) 215
(3) 335
(4) 525

11. Renee uses four different shapes to design a 6 m 30 cm long banner. She leaves a space of 30 cm at each end of the banner. The width for each shape is 30 cm. There is an interval of 15 cm between every shape. There is no interval after the last shape.



Which one of the following will be the last shape placed on the banner?

(1)

(2)

(3)

(4)

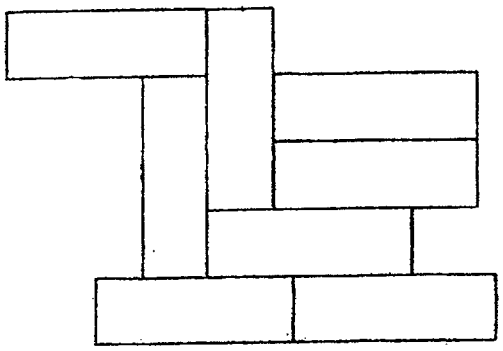
12. The doctor prescribed 30 ml of fever syrup for Chris. He had to take 5 ml of the fever syrup every 3 hour. He first took his fever syrup at 4 a.m. When would his last intake be?

(1) 4 p.m.
(2) 6 p.m.
(3) 7 p.m.
(4) 10 p.m.

13. A packet of chocolates contains pieces of milk, dark and orange chocolates. 25% of the chocolates are dark chocolates. The ratio of the number of dark chocolates to the number of milk chocolates is 5 : 7. There are 78 pieces of dark and orange chocolates. What is the total number of pieces of chocolates in the packet?

(1) 104
(2) 120
(3) 130
(4) 195

14. The figure below is made up of 8 identical rectangles. Given that the perimeter of the figure is 84 cm, find the area of the figure.



(1) 147 cm^2
(2) 192 cm^2
(3) 216 cm^2
(4) 294 cm^2

15. The figures below are made up of identical squares.

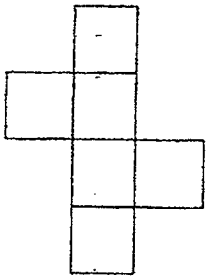


Figure 1

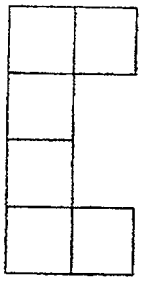


Figure 2

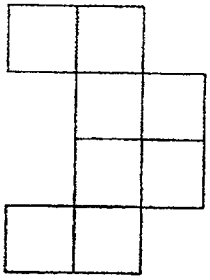


Figure 3

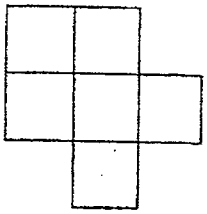


Figure 4

How many figure(s) is/are symmetrical?

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

END OF BOOKLET A

Anglo-Chinese School
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2023 P6 PRELIMINARY EXAM
MATHEMATICS
PAPER 1 (BOOKLET B)
PRIMARY SIX

N: _____ ( ) Class: Primary 6 _

Date: 21 August 2023 Duration of Paper Booklets A & B: 1 hour

_____
Parent's/Guardian's signature

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 12 printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
6. Do not use correction fluid/tape or highlighters.
5. You are not allowed to use a calculator.

Paper 1 **Booklet A. Multiple-Choice Questions**	20	
Paper 1 **Booklet B. Short Answers: Part 1**	5	
Paper 1 **Booklet B. Short Answers: Part 2**	20	
Total Marks	45	

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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16. Write $4 + \frac{3}{10} + \frac{215}{1000}$ as a decimal.

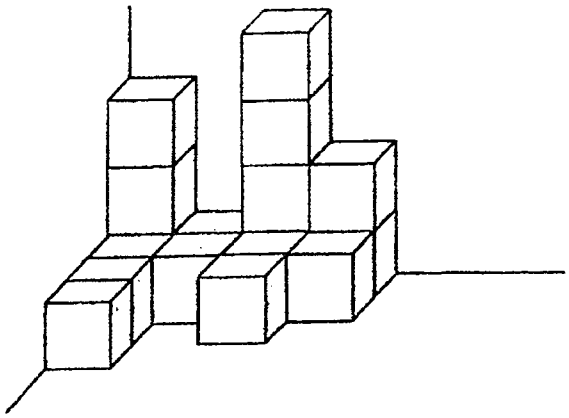
Answer : _____

17. Find the value of $68 - 12 \div 2 + 11$.

Answer : _____

Sub-Total : [ ]

18. The solid below is made up of 1-cm cubes. What is the least number of cubes that needs to be added to the solid to make it a cube?



Answer : _____

19. Lindy used $\frac{2}{5}$ m of ribbon to make bow. She made a total of 25 bows. How many centimetres of ribbon did she use in all?

Answer : _____ cm

Sub-Total : [ ]

20. Mr Kumar drove for 6 h 15 min from his house to Green Valley Shopping Mall. He spent 2 h 45 min at the mall and left the mall at 5 p.m. What time did he start driving from his house?

Answer : _____

Sub-Total : [ ]

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

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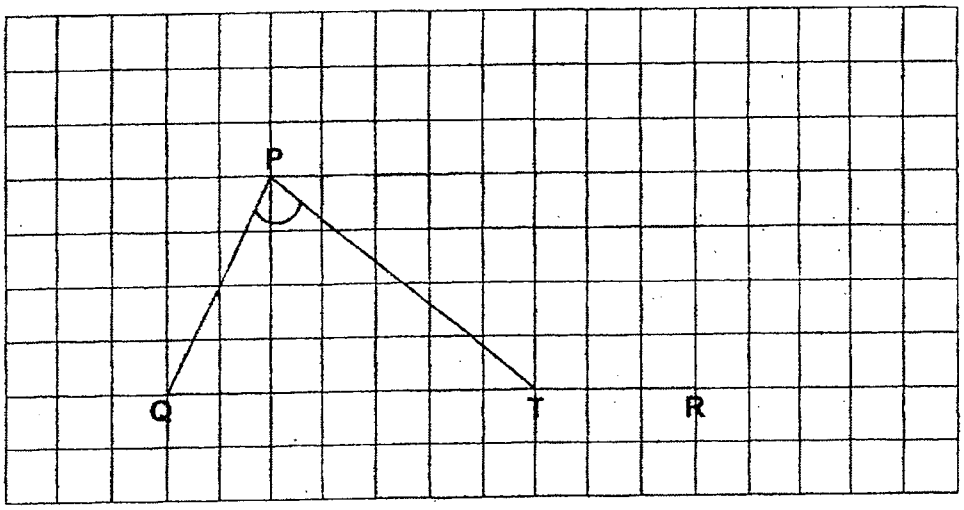
21. In the figure below, PQ and QR are drawn to scale.



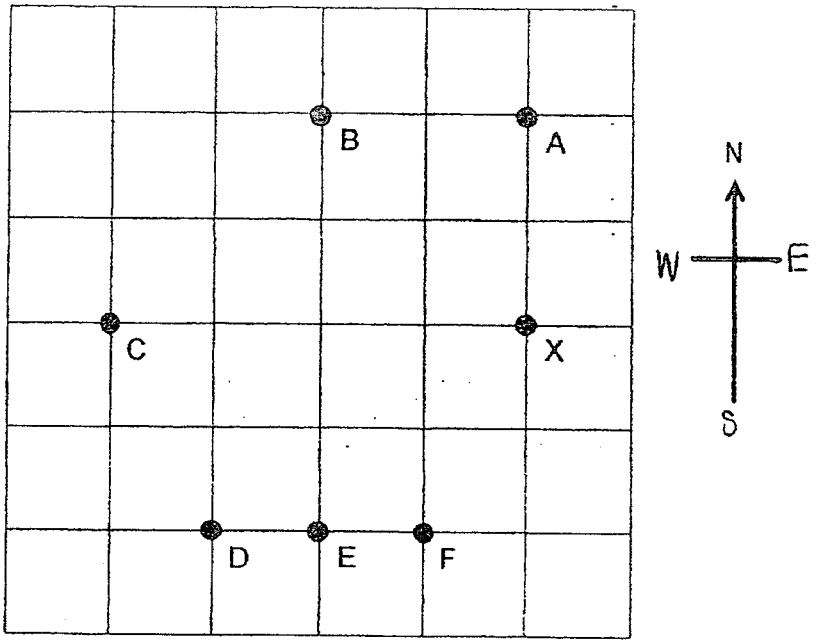
(a) Draw 2 lines, PS and SR so that PQRS is a parallelogram. [1]

(b) Measure ∠QPT. [1]

Answer : **(b)** _____°

Sub-Total : [ ]

22. Paul is at Point X and he is facing North-West. Which point will Paul be facing after turning 90° anti-clockwise?



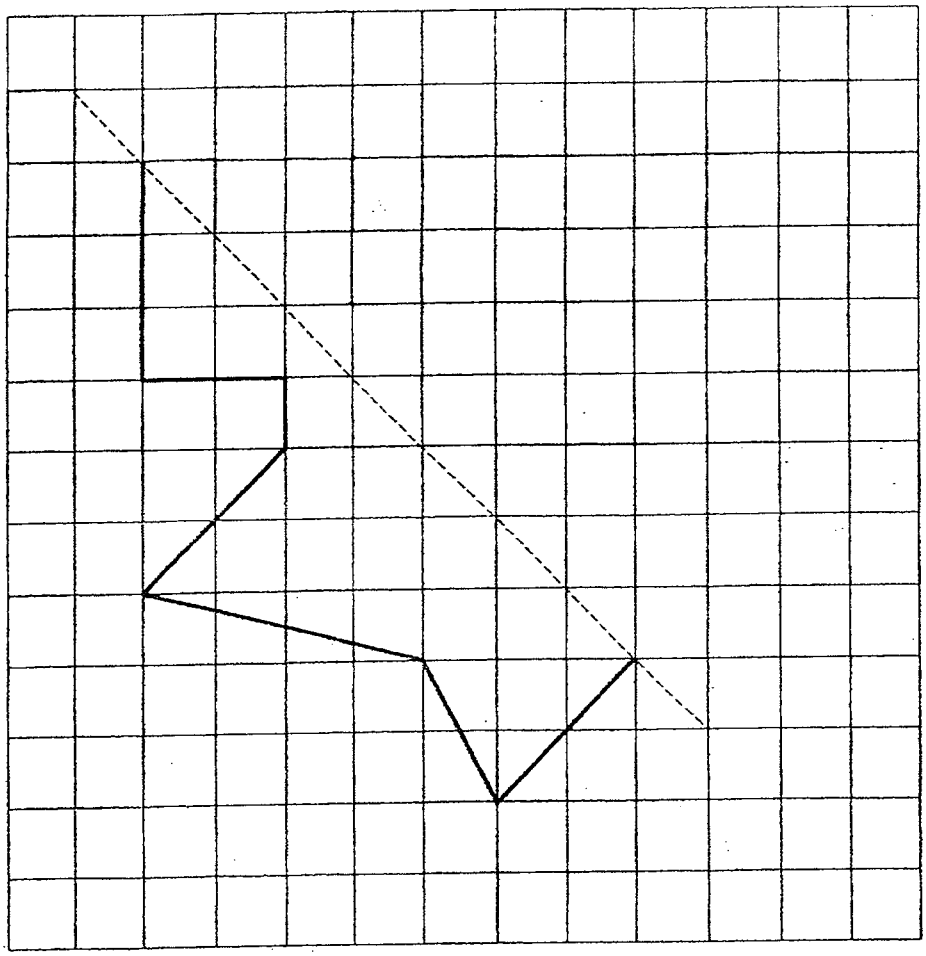
Answer : Point _____

23. Find the value of $103 - 3m \times \frac{2m}{3}$ when $m = 6$.

Answer : _____

Sub-Total :

24. The diagram below is only half a symmetrical figure. Complete the figure.



Sub-Total :

25. Numbers are arranged in columns as shown.
In which column will the number 100 appear?

A	B	C	D	E	F
		1	2	3	4
5	6	7	8	9	10
11	12	13	14	15	16
17	18	19	20	21	22
.	.	.	.	.	.
.	.	.	.	.	.
.	.	.	.	.	.

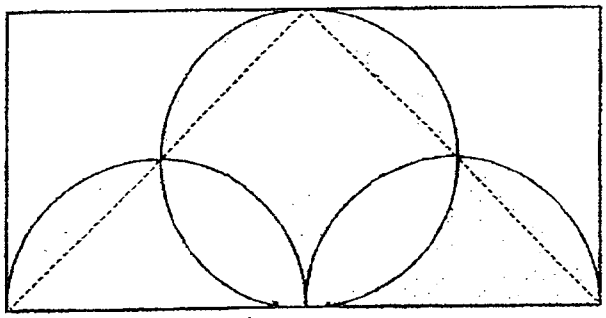
Answer : Column _____

26. The sum of three numbers is 60. If the second number is $\frac{1}{6}$ of the first number and the third number is 3 times the second number, find the first number.

Answer : _____

Sub-Total : ☐

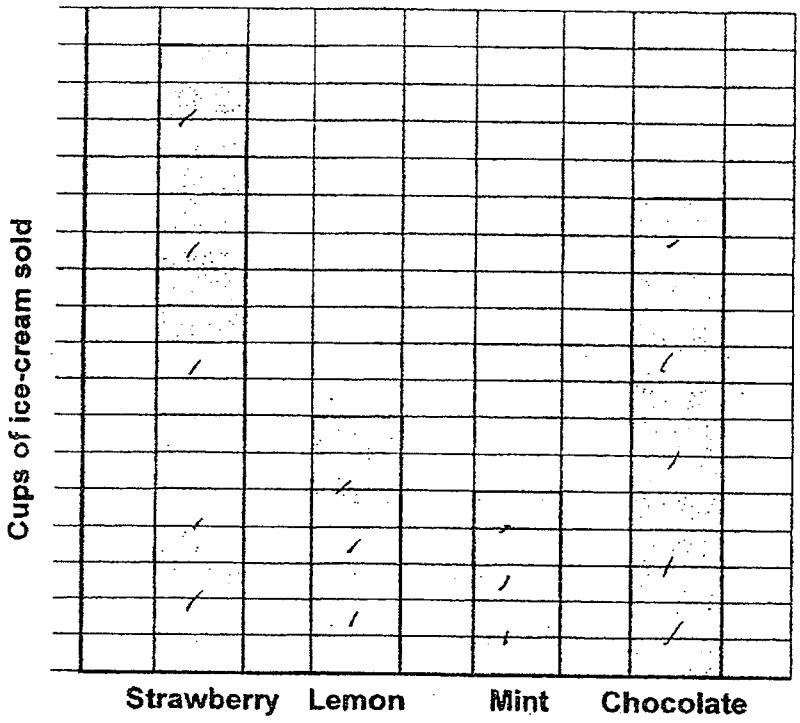
27. The figure below is made up of a rectangle, a circle and 2 identical semicircles. The diameters of the circle and the semicircles are 14 cm. Find the total area of the shaded parts. (Take $\pi = \frac{22}{7}$)



Answer : _____ cm^2

Sub-Total : [ ]

28. The bar graph below shows the number of cups of ice-cream sold at a stall.
What percentage of the cups of ice-cream sold were lemon flavour?
Give your answer correct to 1 decimal place.



Answer : _____%

Sub-Total : [ ]

29. There are 30 boys and girls in a group. The average height of the children is 145 cm. When 3 more boys joined the group, the average height of each student increased by 0.5 cm. The total height of the girls in the group is 1820 cm.

Each of the statements below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) to indicate your answer.

Statement	True	False	Not possible to tell
The average height of the 3 boys who joined the group is 150.5 cm.			
The average height of all the boys before the 3 boys joined the group is greater than 145 cm.			

Sub-Total :

30. The ratio of the amount of money Amil had to the amount of money Bala had to the amount of money Charles had was 8 : 3 : 5. After they each spent the same amount of money, Amil had $66 left. The amount of money Charles had left was 5 times that of Bala. Find the total amount of money the 3 children had at first.

Answer : $ _____

END OF BOOKLET B

Sub-Total : [ ]

Anglo-Chinese School
(Primary)

A Methodist Institution
(Founded 1886)

2023 P6 PRELIMINARY EXAM
MATHEMATICS
PAPER 2
PRIMARY SIX

Name. _____ ( ) Class: Primary 6 _____

Date: 21 August 2023 Duration of Paper 2: 1 hour 30 minutes

_____
Parent's/Guardian's signature

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of **16** printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
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6. Do not use correction fluid/tape or highlighters.
7. You are allowed to use a calculator.

Paper 2 **Section A. Short Answers**	**10**	
Paper 2 **Section B. Problem Sums**	**45**	
Total Marks	**55**	

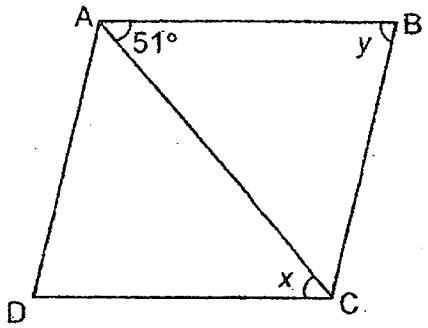
Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do n write this s

1. The cost of 3 chairs and 5 tables is \$360. The cost of 6 chairs and 15 tables is \$900. What is the cost of 1 table? (Round off the answer to the nearest \$10.)

Answer: \$_____ [2]

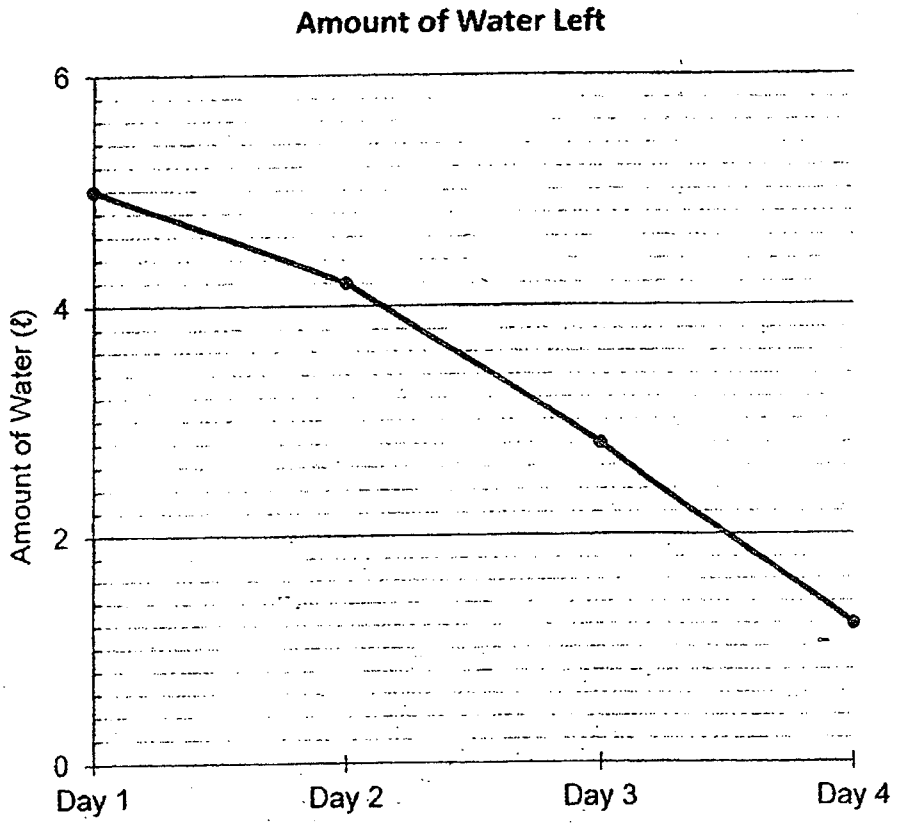
2. ABCD is a rhombus. $\angle BAC = 51°$. What is the sum of $\angle x$ and $\angle y$?



Answer: _____ ° [2]

3. A tank contained 6ℓ of water. The graph below shows the amount of water left in a tank at the end of each day. What is the total amount of water used on Day 2 and Day 4?

Do not write in this space



Answer: _____ ℓ [2]

4. Mrs Lim bought a watch at a discount of 15% and she paid $124.10, not including GST. What is the original price of the watch including 8% GST?

Do not write in this space

Answer: $_____ [2]

5. Mrs Sim bought a bag for $140. She paid the cashier in $10 and $5 notes. If there were fifteen notes altogether, how many $10 notes were there?

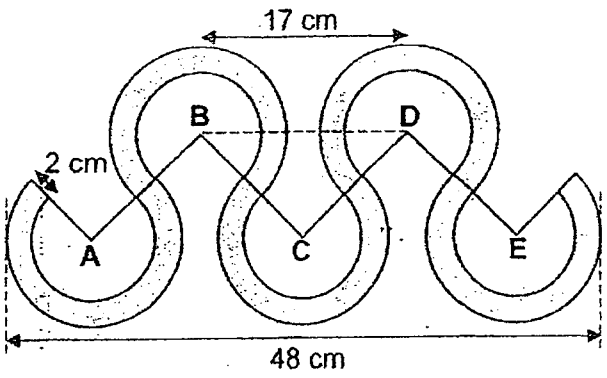
Answer: _____ [2]

For questions 6 to 17, show your working clearly in the space provided for 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)

Do not write in this space

6. The figure below is formed by joining five identical $\frac{3}{4}$-circle discs. Points A, B, C, D and E are centres of each $\frac{3}{4}$-circle disc. Given that the distance between B and D is 17 cm and the distance between the first and the last disc is 48 cm, find the length AB.

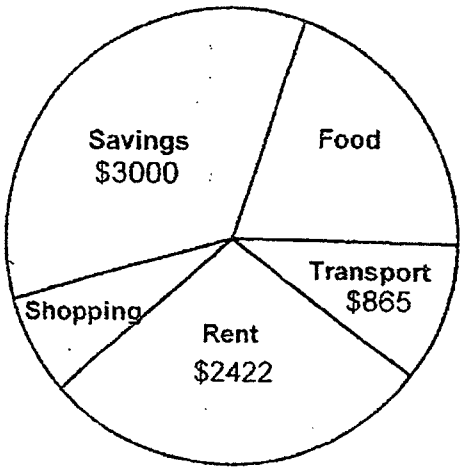


Answer: _____ [3]

7. Serena has a monthly salary of \$8650. She spent $\frac{1}{5}$ of her money on food.

The pie chart below shows how she used her monthly salary.

Do not write in this space



(a) How much money did Serena spend on food?

Answer: **(a)** _____ [1]

(b) What fraction of her salary did Serena spend on rent and transport?

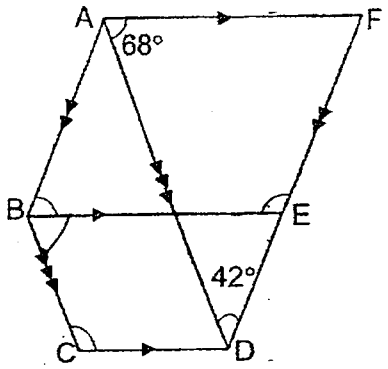
Answer: **(b)** _____ [1]

(c) What percentage of her salary did she spend on shopping?
Give your answer correct to nearest 1%.

Answer: **(c)** _____ [1]

Do not write in this space

8. The figure below is not drawn to scale. ABEF is a parallelogram and BCDE is a trapezium. BE//CD, AB//FD and BC//AD. DF is a straight line. $\angle ADF = 42°$ and $\angle DAF = 68°$.



(a) Find $\angle BCD$.

Answer: (a) _____ [1]

(b) Find $\angle ABE$.

Answer: (b) _____ [1]

(c) Find $\angle BEF$.

Answer: (c) _____ [1]

9. The distance between Town A and Town B is 1260 km. Train X travels from Town A to Town B at 8.00 a.m. at an average speed of 230 km/h. At the same time, Train Y travels from Town B to Town A at an average speed of 190km/h.

Do not write in this space

(a) What time did they meet?

Answer: (a) _____ [1]

(b) How far would each train have travelled when they meet on the way?

(b) Train X: _____ [1]

Train Y: _____ [1]

10. The following table shows the charges for making an overseas call to Australia.

Do not write in this space

Overseas Call Charges	
First 15 minutes	\$2.60
Every additional minute	p ¢ per minute

(a) Mrs Jamus paid \$32 for a phone call to her sister in Australia. What was the duration of the call? Leave your answer in terms of p.

Answer: (a) _____ [2]

(b) Given that p = 60, find the duration of the call Mrs Jamus made.

Answer: (b) _____ [1]

11. Bottles A, B and C contain 7.35 litres of oil altogether. $\frac{1}{5}$ of the oil in Bottle A is transferred to Bottle B. After that, $\frac{1}{5}$ of the oil in Bottle B is transferred to Bottle C. Now, Bottle A has twice the amount of oil in Bottle B and Bottle B has twice the amount of oil in Bottle C.

Do not write in this space

(a) How much oil was transferred from Bottle A to Bottle B?

Answer: (a) _____ [2]

(b) How much oil was in Bottle C at first?

Answer: (b) _____ [2]

12. Marcus is playing a video game. On his first win, he obtains 3 points. For every subsequent win, he will receive 2 additional points more than his previous win.

Do not write in this space

(a) Marcus gets 6 wins in a row. What will be his score for the 6th win?

Answer: (a) _____ [2]

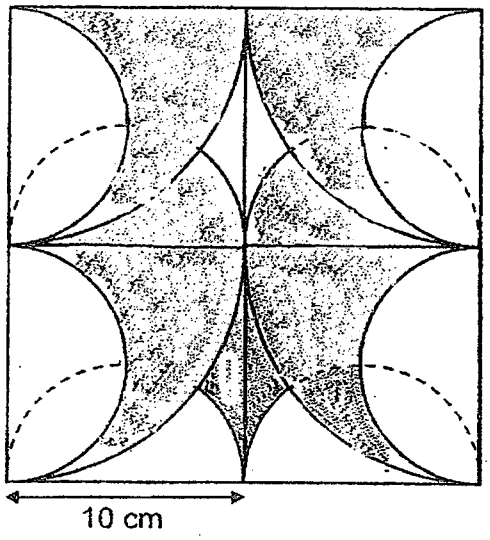
(b) How many times must he win the game in a row for him to achieve 99 points?

Answer: (b) _____ [2]

13. The figure below is made up of four squares of sides 10 cm, four quadrants and eight semicircles. Find the total area of the shaded parts.

(Take $\pi = 3.14$)

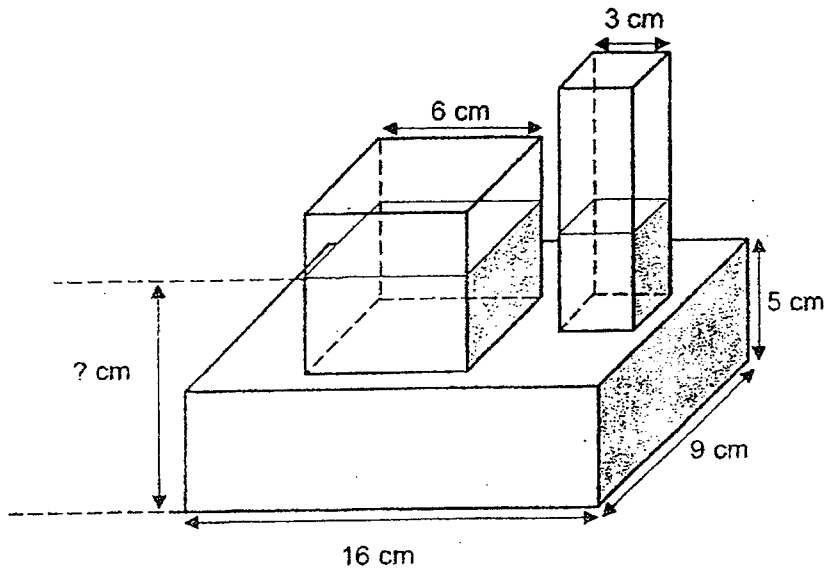
Do not write in this space



Answer: _____ [5]

14. The container shown below is made up of 2 cuboids and a 6-cm cube. The small cuboid has a square base of side 3 cm. The dimension of the big cuboid is 16 cm by 9 cm by 5 cm. There is 864 mℓ of water in the container and the height of the water level in the small cuboid and the cube is the same. What is the height of the water level from the base of the container?

Do not write in this space



Answer: _____ [4]

15. Simon, Marc and Wilson sat for their Math exam. The average score of Simon and Marc was 85 marks. The average score of Marc and Wilson was 91 marks. The average score of Simon and Wilson was 82 marks.

Do not write in this space

(a) What was the average mark of the three boys?

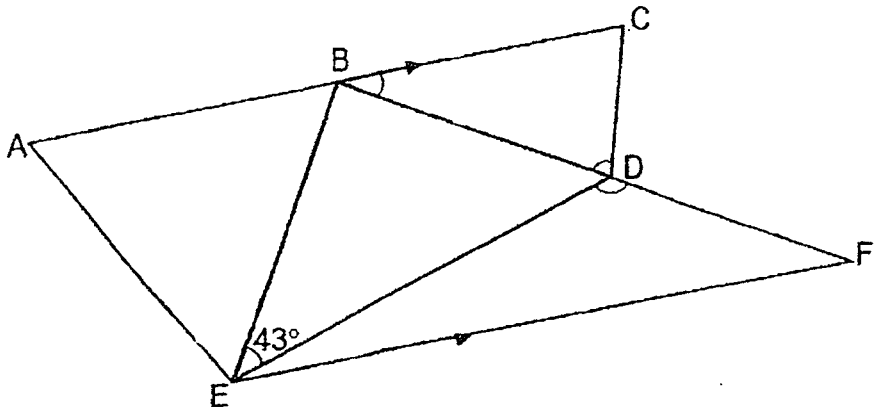
(a) _____ [2]

(b) Simon's mark was recorded incorrectly. He was given an additional of 7.5 marks. What is the correct average score of the 3 boys?

Answer: (b) _____ [2]

Do not write in this space

16. The figure below is not drawn to scale. ABE is an equilateral triangle and BCD is an isosceles triangle. ABC and BDF are straight lines and AC//EF. $\angle EBD = 90°$ and $\angle BED = 43°$.



(a) Find $\angle CBF$.

Answer: **(a)** _____ [2]

(b) Find $\angle BDC$.

Answer: **(b)** _____ [1]

(c) Find $\angle EDF$.

Answer: **(c)** _____ [2]

17. A box contained some twenty-cent, fifty-cent and one-dollar coins. 24% of the coins are twenty-cent coins. The ratio of the number of fifty-cent coins to the number of one-dollar coins is 7 : 12. When 62.5% of the twenty-cent coins were removed, the total number of coins decreased by 15%. In the end there were 255 coins left.

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(a) How many twenty-cent coins were removed?

Answer: (a) _____ [2]

(b) How many one-dollar coins were there in the box?

Answer: (b) _____ [2]

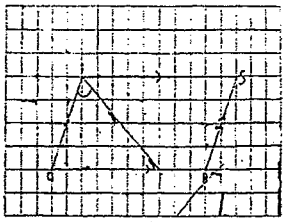
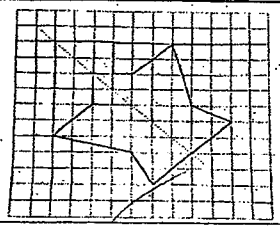
END OF PAPER 2

YEAR : 2023
LEVEL : PRIMARY 6
SCHOOL : ANGLO-CHINESE SCHOOL (PRIMARY)
SUBJECT : MATHEMATICS
TERM. : PRELIMINARY EXAMINATION

(BOOKLET A)

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

(BOOKLET B)

Q16	$4 + \frac{3}{10} + \frac{215}{1000}$ $= 4.515$
Q17	$68 - 12 \div 2 + 11 = 73$
Q18	$4 \times 4 \times 4 = 64$ $64 - 11 - 3 - 2 = 47$
Q19	$25 \times \frac{2}{5} = 10$ 10m = 1000cm
Q20	8 a.m.
Q21	(a)  (b) 78°
Q22	Point E
Q23	$103 - 3 \times 6 - \frac{12}{3} = 31$
Q24	
Q25	Column F
Q26	36
Q27	$\frac{1}{2} \times 28 \times 14 = 196 cm^2$
Q28	$17 + 7 + 5 + 13 = 42$ $\frac{7}{42} \times 100\% \approx 16.7\%$

Q29	145 x 33 = 4801.5 145 x 30 = 4350 (4801.5 – 4350) ÷ 3 = 150.5 (True ✓, No. possible to tell)
Q30	A:B:C 8:3:5 16:6:10 16 – 5 = 11 11u → $6 16 + 6 +10 = 32 32u → $192

PAPER 2

Q1	3 chairs + 5 tables → $360 6 chairs + 10 tables → $720 5 tables → 900 – 720 = $180 1 table → $40
Q2	180 – (51 x 2)= 78 51 + 78 = 129°
Q3	800 + 1600 = 2400 2400ml = 2.4L
Q4	$124.10 ÷ 17 x 20 = $146 $\frac{108}{100}$ x $146 = $157.68
Q5	13 ($10) 2 ($5) Total $140 140 – 75 = 65 65 ÷ 5 = 13
Q6	48 – 17 – 17 = 14 14 ÷ 7 = 7 Radius = 15.5 – 7 = 8.5 AB : 7 + 7 – 2 = 12cm
Q7	(a) $\frac{1}{5}$ x $8650 = $17330 (b) $\frac{2422 + 865}{8650} = \frac{19}{50}$ (c) 8650 – 3000 – 1730 – 865 – 2422 = 633 $\frac{633}{8650}$ x 100% = 7%
Q8	(a) 180 – 68 = 112° (b) 180 – 68 – 42 = 70 (c) 180 – 70 = 110
Q9	250 + 190 = 420 1260 ÷ 420 = 3 hr 8am → 11 am Ans: 11 a.m. (b) Train X : 690km Train Y : 570 km

Q10	(a)	$(15\frac{2940}{p})$min	(b)	64min
Q11	(a)	A:B:C 4:2:1 20:10:5 20 + 10 + 5 = 35 35u : 7.35 1u : 0.21 $\frac{4}{5}$: 20 $\frac{1}{5}$: 5 0.21 x 5 = 1.05L	(b)	2.1 ÷ 4 = 0.525 1.05 – 0.525 = 0.525L
Q12	(a)	6 x 2 + 1 = 13	(b)	99 -1 = 98 98 ÷ 2 = 49
Q13	5 x 10 - $\frac{1}{2}$ x 3.14 x 5 x 5 = 10.75 10.75 x 2 = 21.5 21.5 + 10 x 10 = 121.5 $\frac{1}{2}$ x 3.14 x 10 x 10 = 78.5 121.50 + 78.5 = 200cm^2			
Q14	16 x 9 x 5 = 720 864 – 720 =144 6 x 6 + 3 x 3 = 45 144 ÷ 45 = 3.2 3.2 + 5 = 8.2cm			
Q15	(a)	Total (5 + M) → 85 x 2 = 170 Total : 91 x 2 = 182 total : 82 x 2 = 164 170 + 164 + 182 = 516 516 ÷ 2 = 258 258 ÷ 86	(b)	258 – 7.5 = 250.5 250.5 ÷ 3 = 83.5
Q16	(a)	180 – 90 – 60 = 30°	(b)	(180 – 30) ÷ 2 = 75°
	(c)	90 + 30 = 120 180 – 120 – 43 = 17 180 – 90 – 43 – 17 = 30 180 – 17 – 30 = 133°		
Q17	(a)	20¢ : 50¢ + $1 6 : 19 24 : 76 (100) 50¢ : $1 7:12 28 : 48 $\frac{5}{8}$ x 24 = 15 85u : 255 1u : 3 15u: 45	(b)	48u : 3 x 48 = 144