

SA1



**HENRY PARK PRIMARY SCHOOL
2021 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6**

**PAPER 1
(BOOKLET A)**

Name: _____ ()

Parent's Signature

Class: Primary 6 _____

Marks:

Paper 1	Booklet A	20
	Booklet B	25
Paper 2		55
Total		100

Total Time for Booklets A and B: 1 hour

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Shade your answers in the Optical Answer Sheet (OAS) provided.

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 in the Optical Answer Sheet.

(20 marks)

1 Which digit in 92.87 is in the tenths place?

- (1) 9
- (2) 2
- (3) 8
- (4) 7

2 Round 43 589 to the nearest hundred.

- (1) 43 000
- (2) 43 500
- (3) 43 600
- (4) 44 000

3 Which of the following is equal to $5\frac{7}{8}$?

- (1) $\frac{57}{8}$
- (2) $\frac{47}{8}$
- (3) $\frac{43}{8}$
- (4) $\frac{35}{8}$

4 Find the value of $16 + 48 \div 8 \times 2$

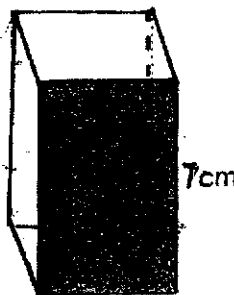
- (1) 28
- (2) 19
- (3) 16
- (4) 4

5 Jasper had a total of 81 toy cars. 63 of his toy cars were red and the rest of them were blue. Find the ratio of the number of red toy cars to the number of blue toy cars.

- (1) 2 : 7
- (2) 7 : 2
- (3) 7 : 9
- (4) 9 : 7

6 The figure shows a cuboid with a square base and a height of 7 cm. Given that the area of the shaded face is 35 cm^2 , find the volume of the cuboid.

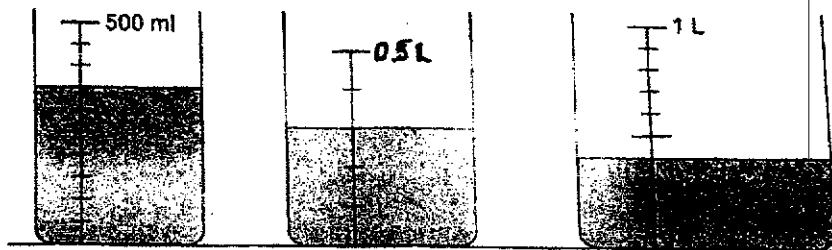
- (1) 175 cm^3
- (2) 190 cm^3
- (3) 210 cm^3
- (4) 245 cm^3



- 7 Jason took 40 minutes to walk from his house to the library. He reached the library at 10.10 a.m. What time did Jason leave his house to go to the library?

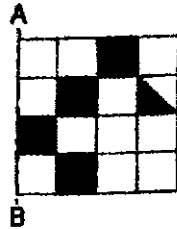
- (1) 9.30 a.m.
- (2) 9.50 a.m.
- (3) 10.20 a.m.
- (4) 10.50 a.m.

- 8 Find the total volume of water in the three containers shown below.

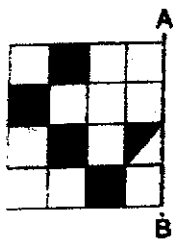


- (1) 0.9 litres
- (2) 1.05 litres
- (3) 1.4 litres
- (4) 1.55 litres

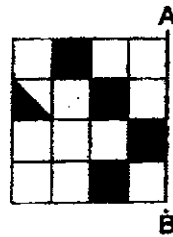
- 9 The right half of a symmetric figure is shown below. AB is the line of symmetry.



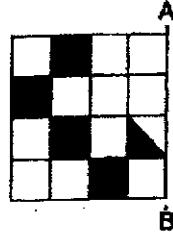
Which one of the following completes the symmetric figure?



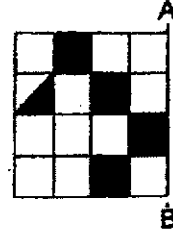
(1)



(2)



(3)



(4)

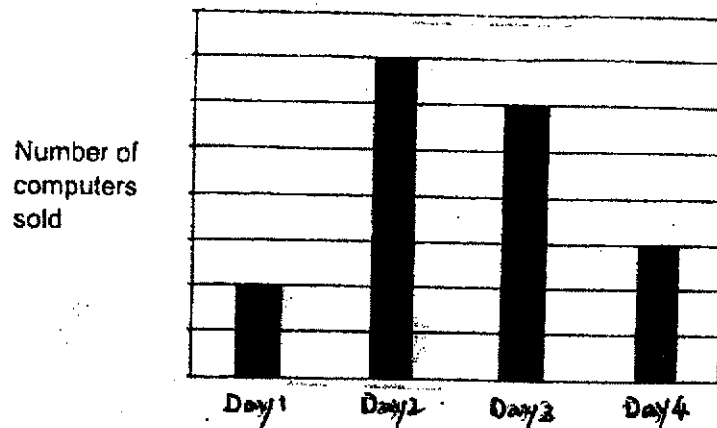
- 10 The table below shows the number of bottles collected by each student for recycling. There were 200 students in total.

Number of bottles	1 – 5	6 – 10	11 – 15	16 – 20	21 – 25
Number of students	20	40	80	50	10

Souvenirs were given to a group of students who collected the most number of bottles. 30% of the students received a souvenir. What was the least number of bottles a student must have collected to receive a souvenir?

- (1) 6
(2) 11
(3) 16
(4) 21

- 11 The bar graph below shows the number of computers sold by a company during a 4-day sale. The company sold all the computers at the end of Day 4.



Which one of the following statements is true?

- (1) The company sold three times as many computers in Day 2 as Day 1.
- (2) Half the computers were sold in Day 1 and Day 2.
- (3) The company sold $\frac{1}{6}$ of the computers in Day 3.
- (4) 30% of the computers were sold in Day 4.

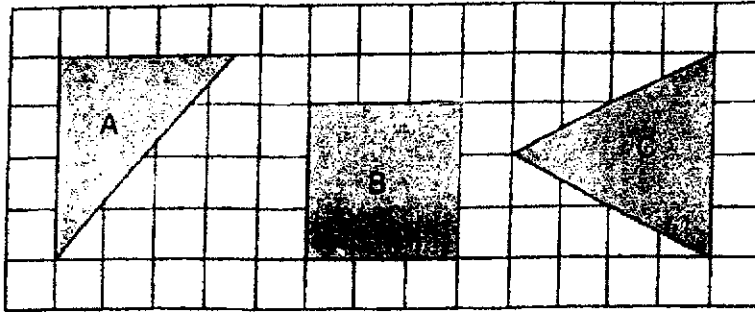
- 12 A repeated pattern is formed using the numbers 0, 1, 2 and 3. The first 20 numbers are shown below.

[illegible]

What is the sum of the first 307 numbers?

- (1) 427
(2) 428
(3) 429
(4) 431

- 13 In the square grid below, A is a right-angled triangle, B is a square and C is an isosceles triangle. Arrange A, B and C from the smallest to the largest area.



Smallest

Largest

- | | | | |
|-----|----|----|---|
| (1) | A. | B. | C |
| (2) | A. | C. | B |
| (3) | B. | C. | A |
| (4) | C. | A. | B |
- 14 At first, Lina had \$24 less than Kelly. After Kelly spent \$45 and Lina spent \$33, Kelly had three times as much money as Lina. How much money did Lina have at first?

- (1) \$39
 (2) \$51
 (3) \$57
 (4) \$63

- 15 Figure 1 shows a rectangular tile measuring 5 cm by 2 cm. Figure 2 is formed using 6 such tiles. Find the perimeter of Figure 2.

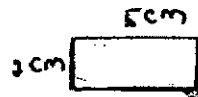


Figure 1



Figure 2

- (1) 40 cm
- (2) 42 cm
- (3) 51 cm
- (4) 60 cm

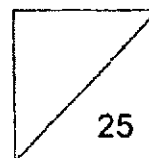


HENRY PARK PRIMARY SCHOOL
2021 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET B)

Name: _____ ()

Class: Primary 6 _____



Total Time for Booklets A and B: 1 hour

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

You are **not** allowed to use a calculator.

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

(5 marks)

Do not write
in this space

16 Find the value of $3 - 0.02$

Ans: _____

17 Write down all the common factors of 35 and 63

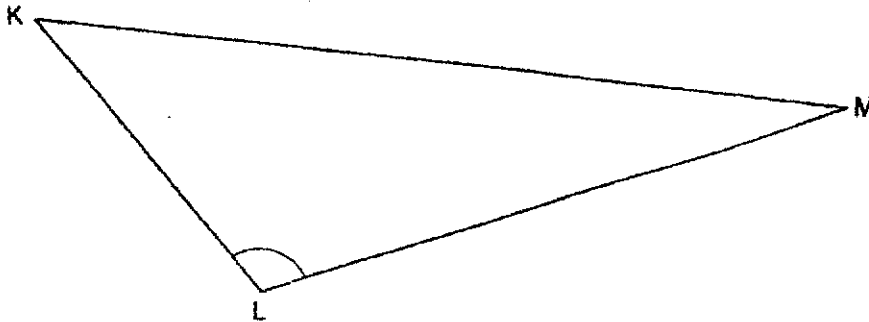
Ans: _____

18 Express $\frac{27}{1000}$ as a percentage.

Ans: _____ %

Use the figure below to answer Questions 19 and 20.

Do not write
in this space



- 19 Measure and write down the length of LM to nearest 0.1 cm.

Ans: _____ cm

- 20 Measure and write down the size of $\angle KLM$.

Ans: _____ °

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.

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(20 marks)

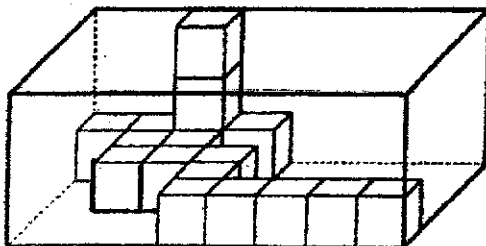
- 21 Mrs Goh had some flour. After using 240 g of flour to bake a cake, she had $\frac{3}{5}$ of the flour left. What was the mass of the flour that Mrs Goh had at first?

Ans: _____ 9

- 22 $\frac{2}{3}$ m of ribbon is needed to make a bow. What is the greatest number of such bows that can be made from a roll of ribbon measuring 24 m?

Ans: _____

- 23 The figure shows a rectangular box partly filled with identical cubes. When the box is completely filled with cubes, how many cubes are there altogether?

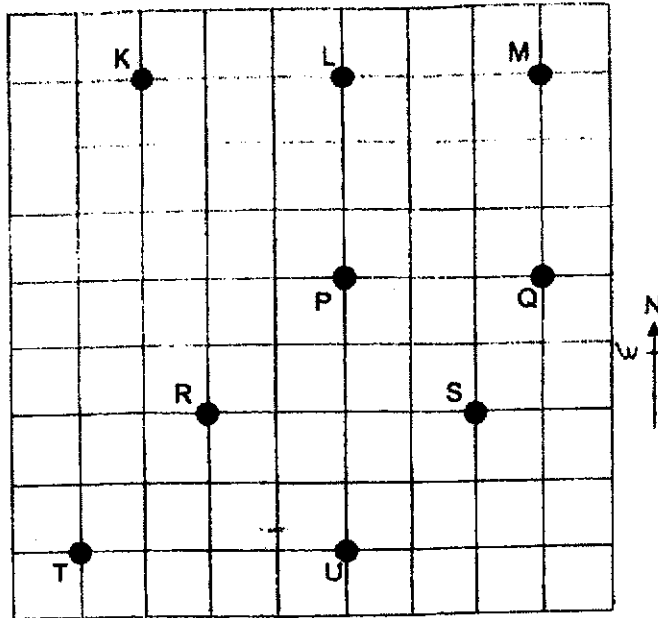


Ans: _____

24

The square grid shows the positions of points K, L, M, P, Q, R, S, T and U.

Do not write
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- (a) Inez stood at one of the points facing K. After she turned 135° clockwise, she faced point Q. Which point was Inez at?
- (b) James stood at one of the points south-west of point P and north-west of point U. Which point was James at?

Ans: (a) _____

(b) _____

25

A bag contains marbles of three different colours. 40% of the marbles are yellow. The remaining marbles are white and blue marbles in the ratio 2 : 3. What is the ratio of the number of yellow marbles to that of blue marbles?

Ans: _____

- 26 Tim mixed 12 litres of orange syrup with 33.7 litres of water to make orange drink. He wanted to pour all the orange drink into some bottles, each with a capacity of 800 ml. What would be the least number of such bottles he needed?

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in this space

Ans: _____

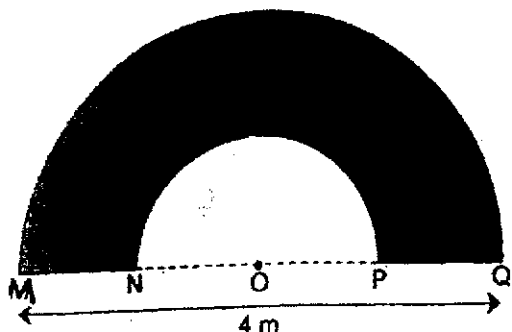
- 27 There were 90 boys and 48 girls at a canteen at first. An equal number of boys and girls left the canteen, 20% of the remaining students were girls. How many remaining students were there in the canteen?

Ans: _____

28

The outline of the figure below is made up of semicircles with centre O and straight lines. $MQ = 4$ m and $MN = NO$. Find the perimeter of the figure. Leave your answer in terms of π in the simplest form.

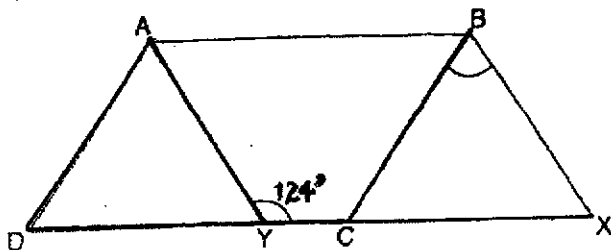
Do not write
in this space



Ans: _____ m

29

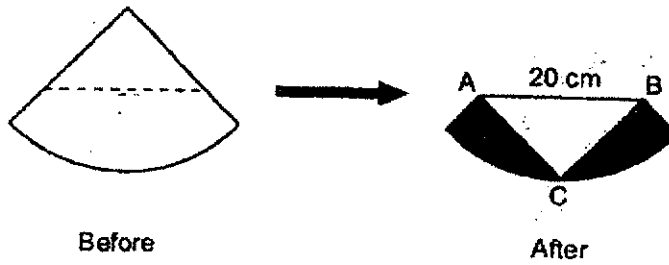
The figure below is made up of two identical parallelograms, $ABCD$ and $ABXY$. Given that $\angle AYX = 124^\circ$, find $\angle CBX$.



Ans _____

- 30 Shaylie had a piece of paper in the shape of a quarter circle. She folded it along the dotted line such that $AC = BC$ as shown below. Given that $AB = 20$ cm, find the area of the shaded parts of the piece of paper. (Take $\pi = 3.14$)

Do not write
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Ans: _____ cm²

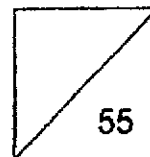


HENRY PARK PRIMARY SCHOOL
2021 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 2

Name: _____ ()

Class: Primary 6 _____



Time for Paper 2: 1 h 30 min

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Show your working clearly as marks are awarded for correct working.

Write your answers in this booklet.

You are allowed to use a calculator.

Questions 1 to 5 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.

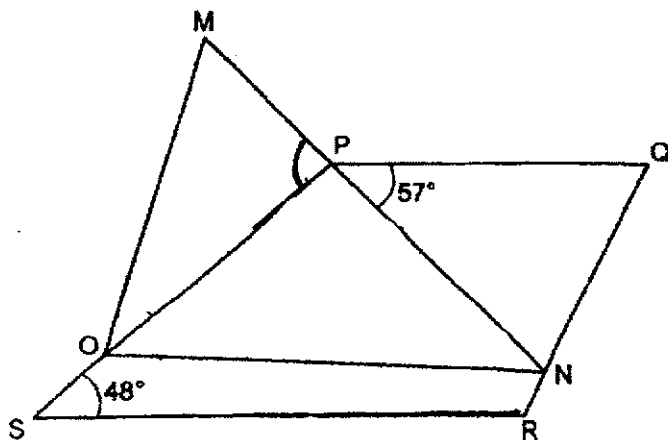
(10 marks)

Do not write
in this space

- 1 Ali, Bala and Cal had a total of 1450 marbles. Bala had four times as many marbles as Ali. Given that Cal and Ali had marbles in the ratio 5 : 4, how many marbles did Bala have?

Ans: _____

- 2 In the figure, PQRS is a trapezium and MPN is a straight line. Given that $PQ \parallel SR$, $\angle QPN = 57^\circ$ and $\angle PSR = 48^\circ$, find $\angle MPO$.



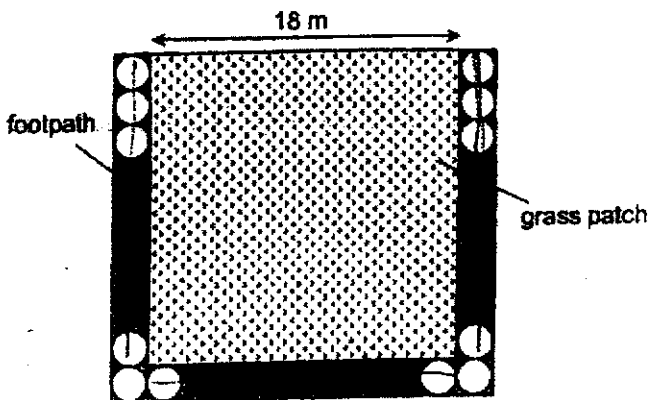
Ans: _____

- 3 The average of four different 3-digit whole numbers is 145. Find the value of the largest possible number.

Do not write
in this space

Ans: _____

- 4 The figure shows a square grass patch of side 18 m and a U-shaped footpath. The footpath is tiled using 32 circular tiles, following the pattern shown below. Each tile is in contact with those next to it. Find the diameter of each circular tile.



Ans: _____ m

- 5 Jean, Nancy and Francis had a number of stickers in the ratio 5 : 2 : 8. After Francis gave 30% of his stickers to Jean and Nancy, the number of stickers that Nancy had increased by 60%. What was the percentage increase in the number of stickers that Jean had?

Do not write
in this space

Ans: _____ %

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 the brackets [] at the end of each question or part-question.

(45 marks)

Do not write
in this space

- 6 Jie En received \$4.50 pocket money daily. From Monday to Friday, he spent \$3.30 each day and saved the rest. On Saturday and Sunday, he saved all his pocket money. Given that he started saving on Monday, how many days would it take Jie En to save \$126?

Ans: _____ [3]

- 7 At a shop, a monitor cost $\frac{1}{5}$ as much as a laptop. Mr Tan bought one monitor and one laptop each at a discount of 30%. He paid a total of \$2730 for them. Find the cost of the laptop before discount.

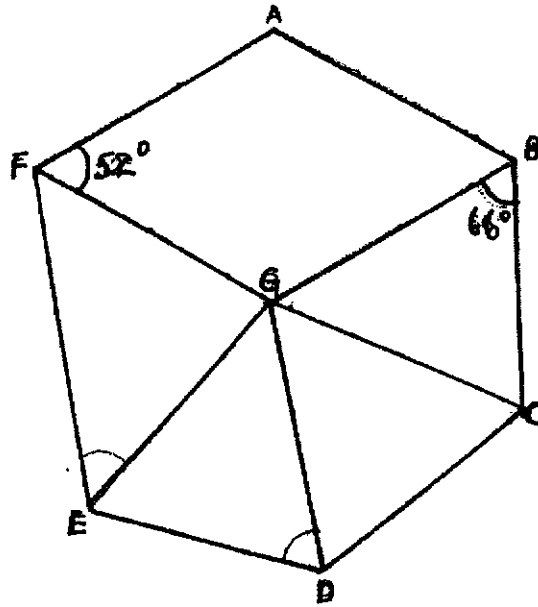
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in this space

Ans: _____ [3]

8

In the figure below, $ABGF$ is a rhombus and BCG , CDG and DEG are identical isosceles triangles where $BG = CG = DG = EG$. Given that $\angle AFG = 52^\circ$ and $\angle GBC = 66^\circ$, find $\angle GEF$.

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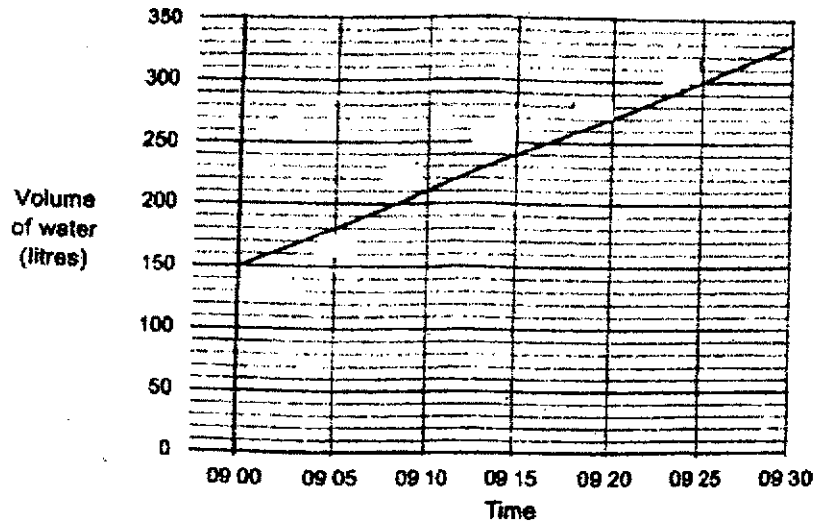


Ans: _____ [3]



9

At first, $\frac{1}{8}$ of a tank was filled with water. A tap was turned at 09 00 for more water to flow into the tank. The line graph shows the volume of water in the tank from 09 00 to 09 30.



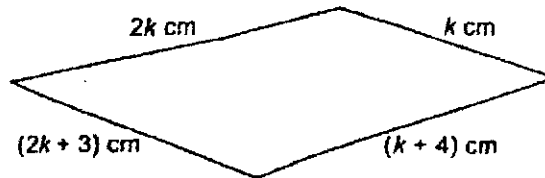
- (a) How many litres of water flowed into the tank in one minute?
- (b) At this rate, what time will the tank be filled completely with water?

Ans: (a) _____ [1]

(b) _____ [2]

Do not write
in this space

- 10 (a) The perimeter of the figure shown below is 139 cm. Find the value of k .



Do not write
in this space

Ans: (a) _____ [2]

- (b) Mr Teo has three printing machines in his company. In one hour, Machine A can print 124 posters, Machine B can print $4n$ posters and Machine C can print $(2n - 4)$ posters.

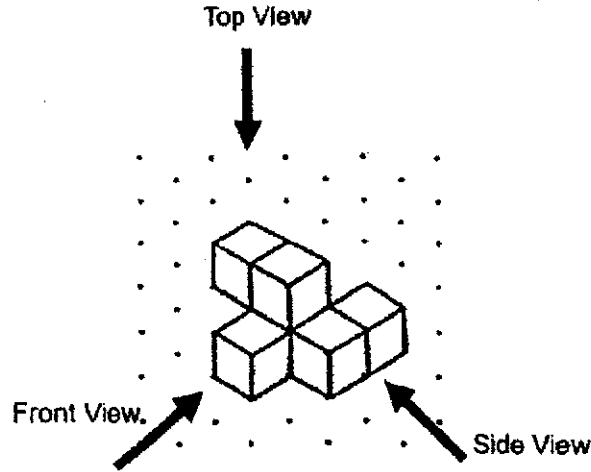
Each of these statements is either true, false or not possible to tell from the information given. For each statement, put a tick ($\checkmark$) to indicate your answer.

[2]

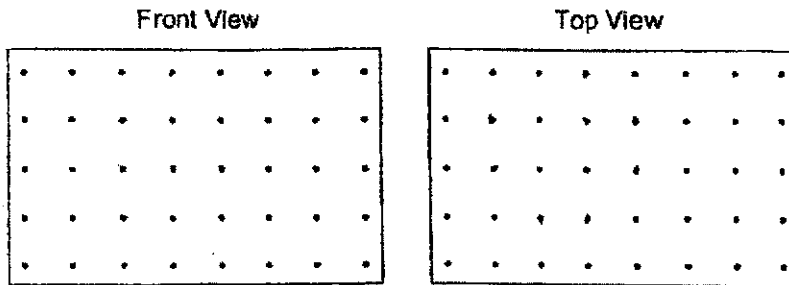
Statement	True	False	Not possible to tell
In one hour, the three machines can print a total of $(6n + 128)$ posters.			
Among the three machines, Machine B prints the most number of posters in one hour.			
Machine B prints fewer posters than Machine C in one hour.			

- 11 Jason stacked six 1-cm cubes and glued them together to form the solid shown below.

Do not write in this space



- (a) Draw the front view and the top view of the solid on the grid below.



[2]

- (b) Jason painted the whole solid, including the base, blue. Find the total area of the faces painted blue.

Ans: (b) _____ [1]



- 12 A store sold stamps at either \$1, 50¢ or 20¢ each. $\frac{2}{5}$ of the stamps sold were one-dollar stamps. The store sold 3 times as many one-dollar stamps as fifty-cent stamps. The amount collected from the sale of one-dollar stamps was \$97.20 more than the total amount collected from the sale of fifty-cent and twenty-cent stamps.

Do not write
in this space

- (a) What fraction of the stamps sold were twenty-cent stamps?
- (b) Find the total number of stamps sold by the store.

Ans: (a) _____ [1]

(b) _____ [4]

- 13 At first, the Art Club had three times as many students as the Choir. 20% of the students from the Art Club and 20% of the students from the Choir left their CCA to join the Dance Club. After that, the number of students in the Dance Club increased by 45% to 116 students.

Do not write
in this space

- (a) What is the total number of students who left the Art Club and the Choir to join the Dance Club?
- (b) How many students were in the Art Club at first?

Ans: (a) _____ [1]

(b) _____ [3]

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- 14 A factory has two machines for canning milk. One machine takes 90 minutes while another takes 110 minutes to produce the same number of cans of milk. The faster machine produces 16 more cans of milk per minute than the slower machine.

Do not write
in this space

- (a) How many cans of milk can the slower machine produce per minute?
- (b) With both machines starting at the same time, how long will it take the factory to produce 12 800 cans of milk?

Ans: (a) _____ [2]

(b) _____ [2]

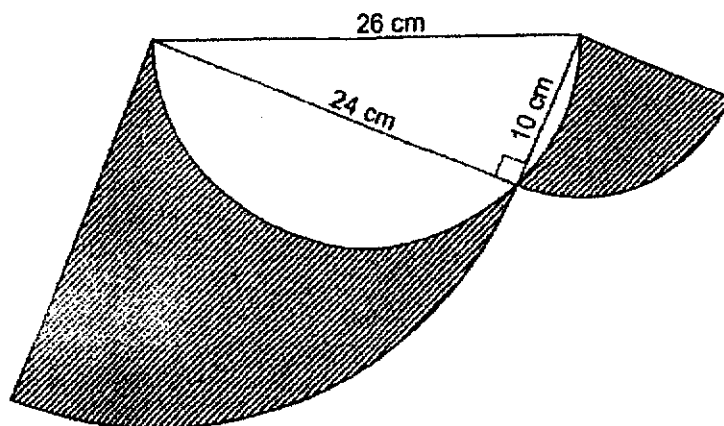
- 15 Henry spent $\frac{2}{5}$ of his money on 7 pairs of shorts and $\frac{2}{9}$ of his remaining money on 3 T-shirts. Each pair of shorts cost \$8 more than each T-shirt. How much money did Henry have left?

Do not write
in this space

Ans: _____ [3]

- 16 The figure below is made up of a right-angled triangle, a semicircle and two quarter-circles.

Do not write
in this space



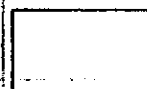
(a) Find the total perimeter of the shaded parts.

(b) Find the total area of the shaded parts.

(Take $\pi = 3.14$)

Ans: (a) _____ [2]

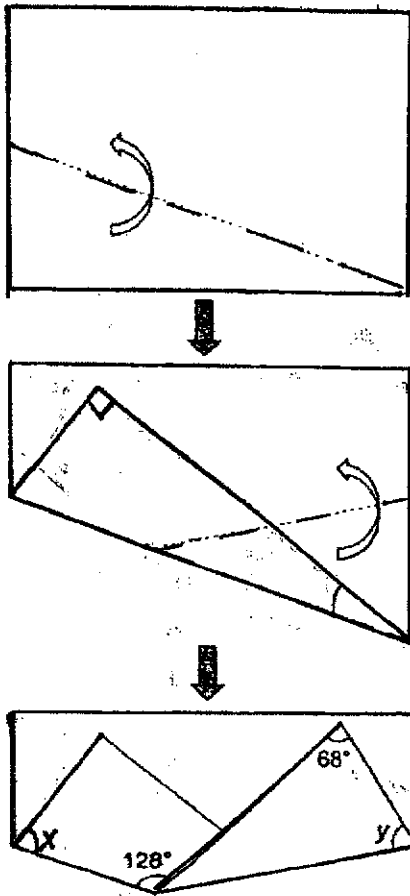
(b) _____ [3]



- 17 Joo Seng had a rectangular piece of paper. He folded it twice along the dotted lines as shown in the figures below. Find:

(a) $\angle x$

(b) $\angle y$



Do not write
in this space

Ans: (a) _____ [2]

(b) _____ [3]

EXAM PAPER 2021

LEVEL : PRIMARY 6
SCHOOL : HENRY PARK PRIMARY SCHOOL
SUBJECT : MATHEMATICS
TERM : SA1

PAPER 1**SECTION A**

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

SECTION B

Q16. 2.98

Q17. 1, 7

Q18. 2.7 %

Q19. 9.0cm

Q20. 114°

Q21. 600g

Q22. 36

Q23. 120

Q24. (a) P
(b) R

Q25. 10:9

Q26. 58

Q27. 70

Q28. $3\pi + 4$ Q29. 68° Q30. 214m^2

PAPER 2

Q1. $16u + 4u + 5u = 1450$
 $25u \rightarrow 1450$
 $1u \rightarrow 1450 \div 25 = 58$
 $16u \rightarrow 16 \times 58 = 928$
Ans: 928

Q2. $180^\circ - 48^\circ = 132^\circ$
 $132^\circ - 57^\circ = 75^\circ$
 $180^\circ - 75^\circ = 105^\circ$
Ans: 105°

Q3. $145 \times 4 = 580$
 $100 + 101 + 102 = 303$
 $580 - 303 = 277$
Ans: 277

Q4. $32 - 2 = 30$
 $30 \div 3 = 10$
 $18 \div 10 = 1.8$
Ans: 1.8m

Q5. **J : N : F**
5 : 2 : 6
50:20:60
 $30\% \times 60 = 18$
 $60\% \times 20 = 12$
 $18 - 12 = 6$
 $\frac{6}{50} \times 100 = 12\%$
Ans: 12%

Q6. $(4.50 - 3.30) \times 5 = 6$
 $4.50 \times 2 = 9$
 $6 + 9 = 15$
 $126 \div 15 = 8 \text{ r}6$
 $(8 \times 7) + 5 = 61$
Ans: 61 days

Q7. $70\% \rightarrow 2730$

$$100\% \rightarrow 2730 \div 70 \times 100 = 3900$$

$$6u \rightarrow 3900$$

$$1u \rightarrow 3900 \div 6 = 650$$

$$5u \rightarrow 650 \times 5 = 3250$$

$$\text{Ans: } \$3250$$

Q8. $180^\circ - 52^\circ = 128^\circ$

$$180^\circ - (66^\circ + 66^\circ) = 48^\circ$$

$$48^\circ \times 3 = 144^\circ$$

$$360^\circ - (128^\circ + 144^\circ) = 88^\circ$$

$$(180^\circ - 88^\circ) \div 2 = 46^\circ$$

$$\text{Ans: } 46^\circ$$

Q9. (a) $180 - 150 = 30$

$$30 \div 5 = 6$$

$$\text{Ans: } 61$$

(b) $150 \times 8 = 1200$

$$1200 - 330 = 870$$

$$870 \div 30 = 29$$

$$29 \times 5 = 145$$

$$145 \text{ min} = 2\text{h } 25\text{min}$$

$$09\ 30 \rightarrow 11\ 30 \rightarrow 11\ 55$$

$$\text{Ans: } 11\ 55$$

Q10. (a) $2k + k + 2k + 3 + k + 4 = 139$

$$6k + 7 = 139$$

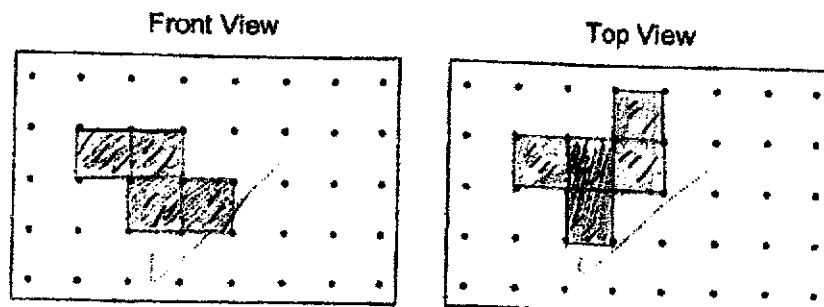
$$6k = 132$$

$$k = 22\text{cm}$$

$$\text{Ans: } 22\text{cm}$$

(b) False, Not possible to tell, False

Q11. (a)



[2]

(b) 25cm^2 Q12. (a) $\$1 : 50\text{c} : 20\text{c}$ $6 : 2 : 7$ Ans: $\frac{7}{15}$ (b) $6\text{u} \times 100\text{c} = 600\text{u}$ $2\text{u} \times 50\text{c} = 100\text{u}$ $7\text{u} \times 20\text{c} = 140\text{u}$ $600\text{u} - 100\text{u} - 140\text{u} = 360\text{u}$ $360\text{u} \rightarrow 9720$ $1\text{u} \rightarrow 9720 \div 360 = 27$ $15\text{u} \rightarrow 15 \times 27 = 405$

Ans: 405

Q13. (a) $A : C$ $3 : 1$ $30:10$ $-6: -2$ $24:8$ $145\% \rightarrow 116$ $\frac{45}{145} \times 116 = 36$

Ans: 36

(b) $8\text{u} \rightarrow 36$ $1\text{u} \rightarrow 36 \div 8 = 4.5$ $30\text{u} \rightarrow 4.5 \times 30 = 135$

Ans: 135

Q14. (a) $110 - 90 = 20$
 $90 \times 16 = 1440$
 $1440 \div 20 = 72$

Ans: 72

(b) $72 + 16 = 88$
 $88 + 72 = 160$
 $12800 \div 160 = 80$
 $80\text{min} = 1\text{h } 20\text{min}$

Ans: 1h 20min

Q15. $5u \times 9 = 45u$

$7 \text{ shorts} \rightarrow 18u$

$1 \text{ short} \rightarrow 18 \div 7 = \frac{18}{7}u$

$3 \text{ t-shirts} \rightarrow 6u$

$1 \text{ t-shirt} \rightarrow 2u$

$\frac{18}{7}u - 2u = \frac{4}{7}u$

$\frac{4}{7}u \rightarrow 8$

$1u \rightarrow 8 \div 4 \times 7 = 14$

$21u \rightarrow 21 \times 14 = 294$

Ans: \$294

Q16. (a) $10 + 10 = 20$

$3.14 \times 20 = 62.8$

$62.8 \div 4 = 15.7$

$3.14 \times 26 = 81.64$

$81.64 \div 2 = 40.82$

$24 + 37.68 + 15.7 + 10 + 40.82 = 128.2\text{cm}$

Ans: 128.2cm

(b) $(3.14 \times 24 \times 24) \div 4 = 452.16$

$10 \times 24 \div 2 = 120$

$(3.14 \times 13 \times 13) \div 2 = 530.66$

$452.16 + 120 + 78.5 = 650.66$

$650.66 - 530.66 = 120$

Ans: 120cm²

Q17. (a) $90^\circ - 68^\circ = 22^\circ$

$$180^\circ - 90^\circ - 22^\circ = 68^\circ$$

Ans: 68°

(b) $180^\circ - 128^\circ = 52^\circ$

$$52^\circ \div 2 = 26^\circ$$

$$180^\circ - 26^\circ - 68^\circ = 86^\circ$$

Ans: 86°

6
END