# 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) $\frac{35}{8}$



(Go on to the next page)

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

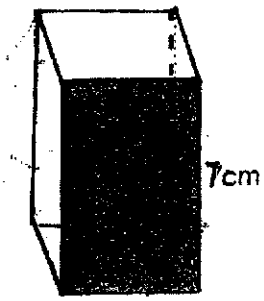
6 The figure shows a cuboid with a square base and a height of 7 cm. Given that the area of the shaded face is 35 $cm^2$, find the volume of the cuboid.

(1) 175 $cm^3$

(2) 190 $cm^3$

(3) 210 $cm^3$

(4) 245 $cm^3$



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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?

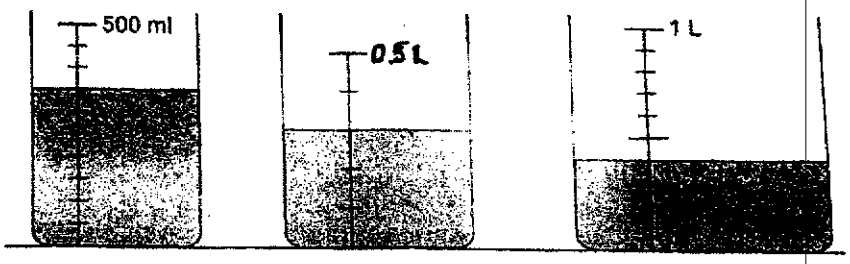
(1) 9.30 a.m.

(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



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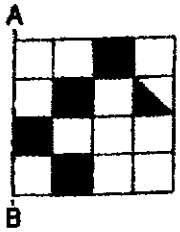
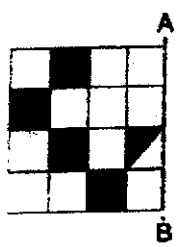
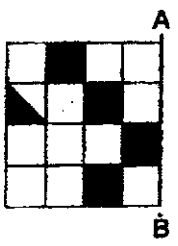
9 The right half of a symmetric figure is shown below. AB is the line of symmetry.



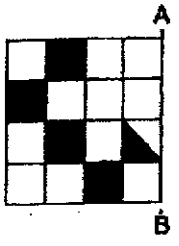

Which one of the following completes the symmetric figure?



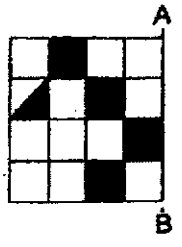

(1)




(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

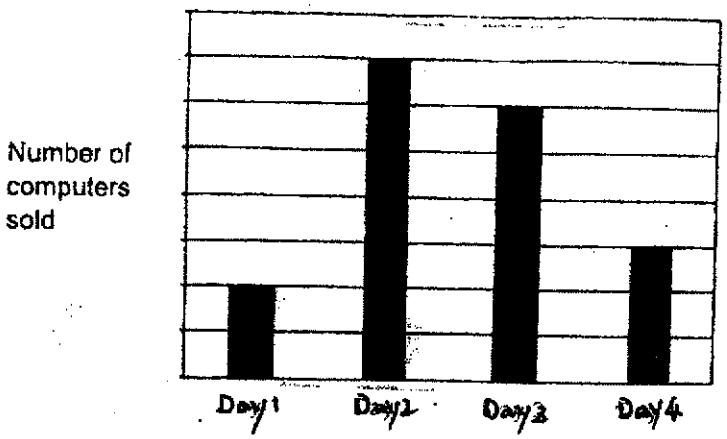
(3) 16

(4) 21



(Go on to the next page)

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.

| 1 | 3 | 2 | 0 | 1 | 1 | 3 | 2 | 0 | 1 | 1 | 3 | 2 | 0 | 1 | 1 | 3 | 2 | 0 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1st | 2nd | 3rd | | | | | | | | | | | | | | | | | 20th |

What is the sum of the first 307 numbers?

(1) 427

(2) 428

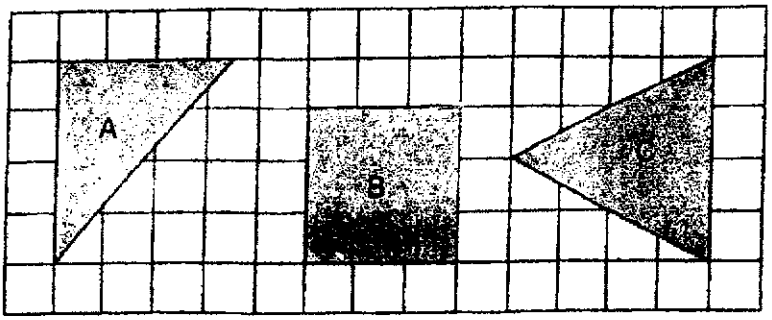
(3) 429

(4) 431



(Go on to the next page)

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



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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.

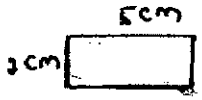


Figure 1

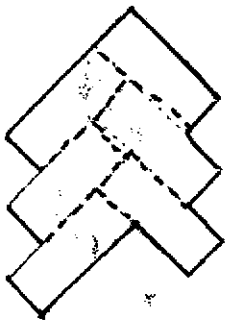

Figure 2

(1) 40 cm

(2) 42 cm

(3) 51 cm

(4) 60 cm



(Go on to BOOKLET B)

HENRY PARK PRIMARY SCHOOL
2021 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET B)

Name: _____ (  )

Class: Primary 6_____

/ 25

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: _____ %



(Go on to the next page)

*Use the figure below to answer Questions* **19** *and* **20**.

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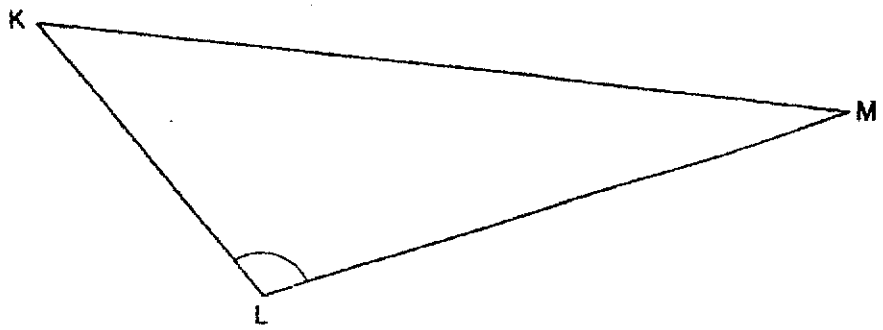



**19** Measure and write down the length of LM to nearest 0.1 cm.

Ans: _____ cm

**20** Measure and write down the size of ∠KLM.

Ans: _____ °



(Go on to the next page)

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)

Do not write in this space

**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 flour that Mrs Goh had at first?

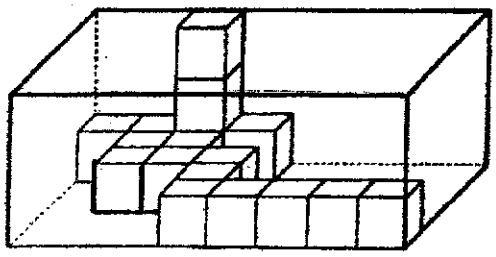
of the

Ans: _____ g

**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: _____



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

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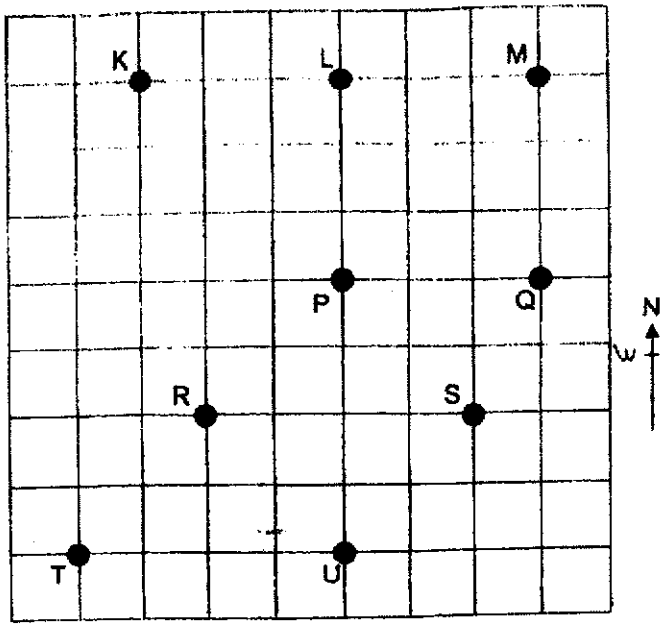



(a) Inez stood at one of the points facing K. After she turned 135° clockwise, she faced point Q. Which point was Inez at?

(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: _____



(Go on to the next page)

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?

Do not write 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?

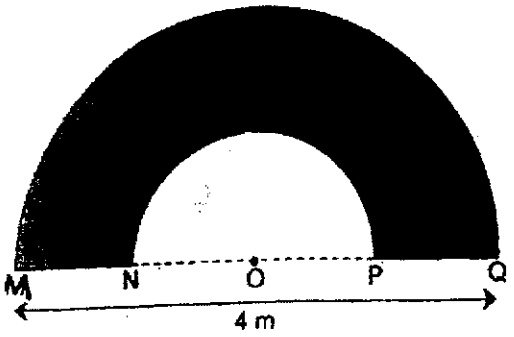
Ans: _____



(Go on to the next page)

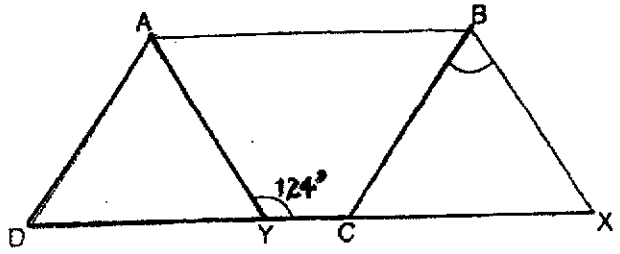
Do not write in this space

**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 $\pi$ in the simplest form.




Ans: _____ m

**29** The figure below is made up of two identical parallelograms, ABCD and ABXY. Given that ∠AYX = 124°, find ∠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)

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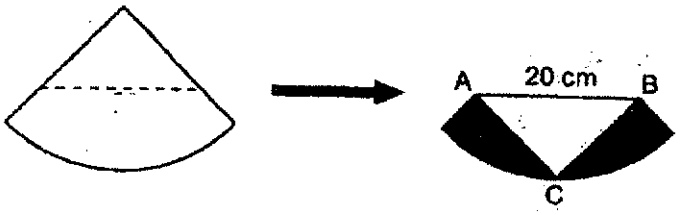



Before After

Ans: _____ $cm^2$

HENRY PARK PRIMARY SCHOOL
2021 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 2

Name: _____( )

Class: Primary 6_____

/ 55

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.

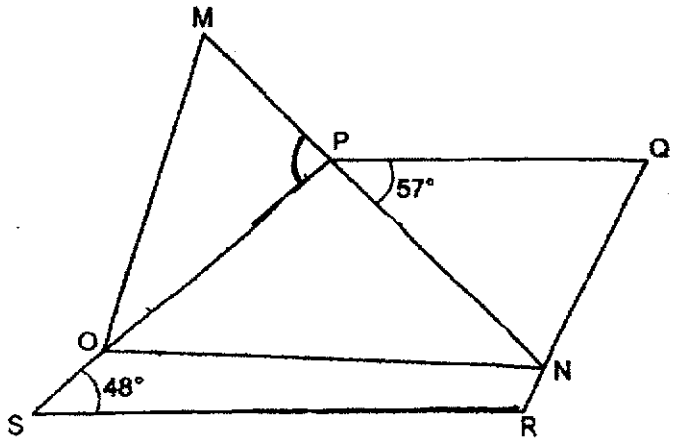
(10 marks)

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 // SR, $\angle QPN = 57°$ and $\angle PSR = 48°$, find $\angle MPO$.




Ans: _____ °



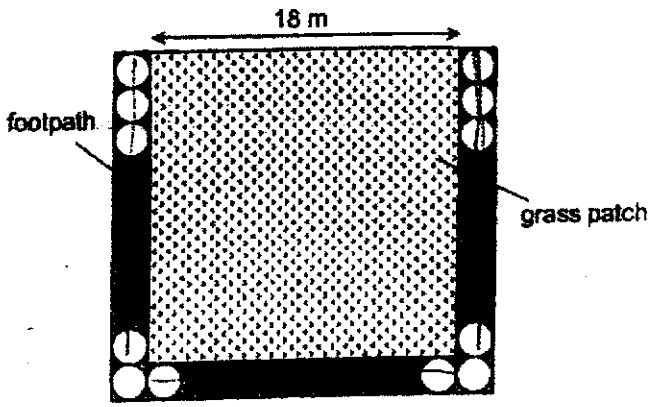
(Go on to the next page)

3 The average of four <u>different</u> 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



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5 Jean, Nancy and Francis had a number of stickers in the ratio 5 : 2 : 6. 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: _____ %



(Go on to the next page)

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)

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**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]



(Go on to the next page)

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.

Do not write in this space

Ans: _____ [3]



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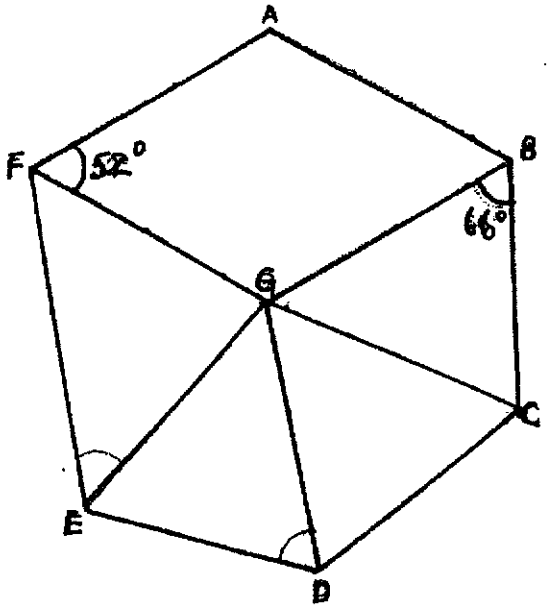
8 In the figure below, ABGF is a rhombus and BCG, CDG and DEG are identical isosceles triangles where BG = CG = DG = EG.
Given that ∠AFG = 52° and ∠GBC = 66°, find ∠GEF

Do not write in this space




Ans: _____ [3]



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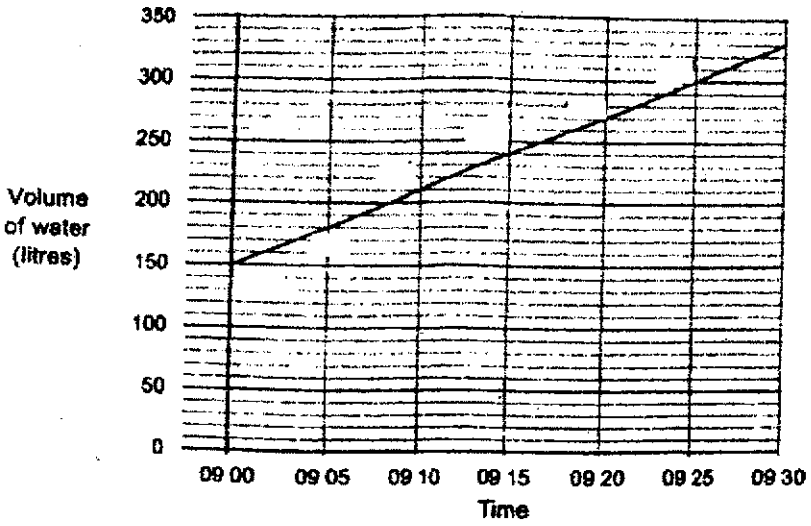
9 At first, $\frac{1}{8}$ of a tank was filled with water. A tap was turned at 09 00 for more water to flow into the tank. The line graph shows the volume of water in the tank from 09 00 to 09 30.




(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]



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

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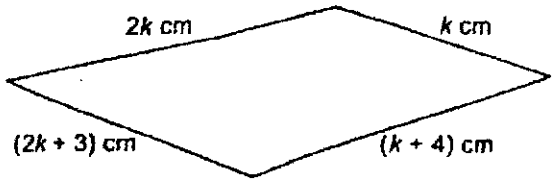


Ans: (a) _____ [2]

(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 (✓) 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. | | | |



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

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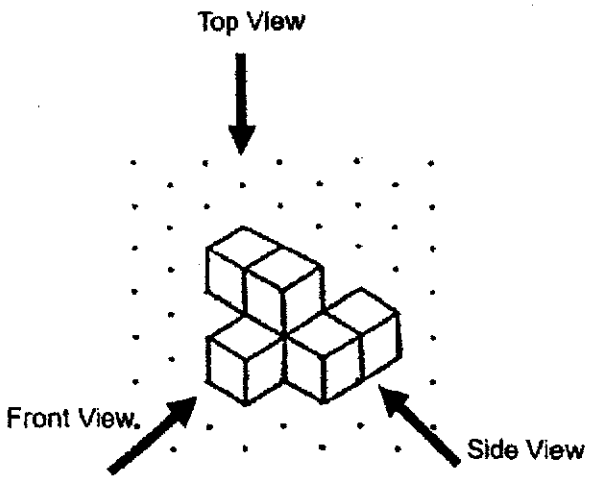
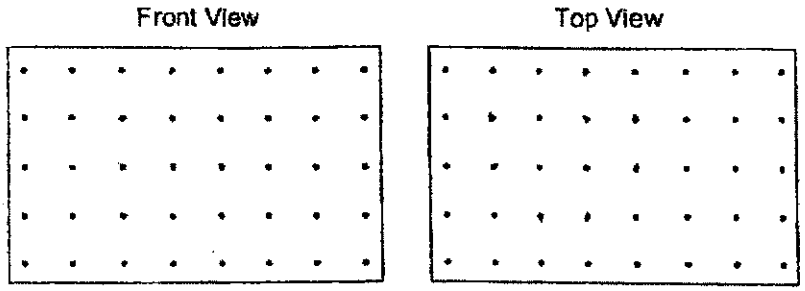



**(a)** Draw the front view and the top view of the solid on the grid below.




[2]

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

Ans: (b) _____ [1]



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Do not write in this space

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.

**(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]



(Go on to the next page)

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]



(Go on to the next page)

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]



(Go on to the next page)

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

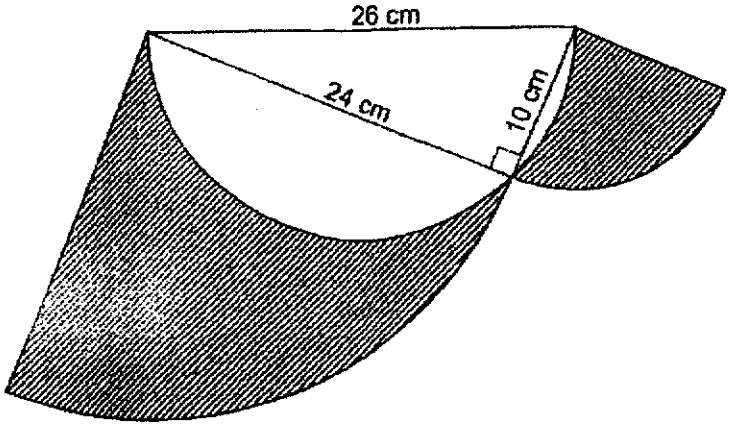
Ans: _____ [3]



(Go on to the next page)

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]



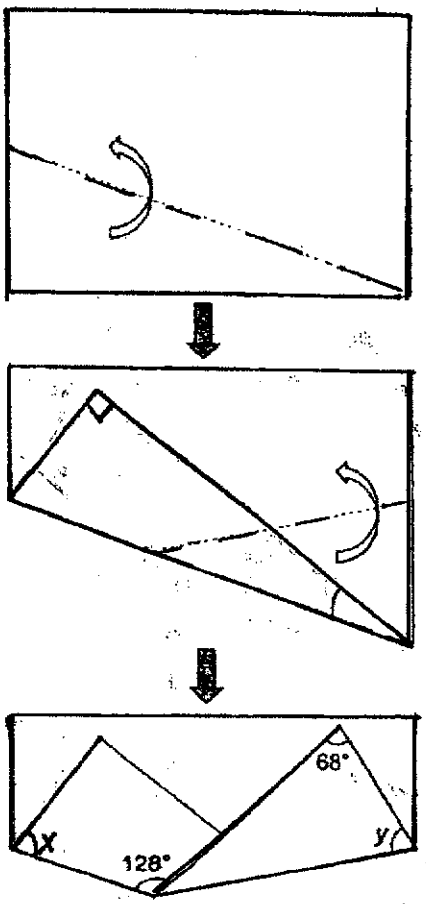
(Go on to the next page)

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

Do not write in this space

**(a)** $\angle x$

**(b)** $\angle y$




Ans: (a) _____ [2]

(b) _____ [3]

*Setters: Mdm Yvonne Lee, Ms Amy Tan and Mr Tan Joo Nam*

**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 → 1450
1u → 1450 ÷ 25 = 58
16u → 16 × 58 = 928
**Ans: 928**

**Q2.** 180° – 48° = 132°
132° – 57° = 75°
180° – 75° = 105°
**Ans: 105°**

**Q3.** 145 × 4 =580
100 + 101 +102 = 303
580 – 303 = 277
**Ans: 277**

**Q4.** 32 – 2 = 30
30 ÷ 3 =10
18 ÷ 10 = 1.8
**Ans: 1.8m**

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

**Q6.** (4.50 – 3.30) × 5 = 6
4.50 × 2 = 9
6 + 9 = 15
126 ÷ 15 = 8 r6
(8 × 7) + 5 = 61
**Ans: 61 days**

**Q7.** 70% → 2730

100% → 2730 ÷ 70 × 100 = 3900

6u → 3900

1u → 3900 ÷ 6 = 650

5u → 650 × 5 = 3250

Ans: $3250

**Q8.** 180° − 52° = 128°

180° − (66° + 66°) = 48°

48° × 3 = 144°

360° − (128° + 144°) = 88°

(180° − 88°) ÷ 2 = 46°

Ans: 46°

**Q9.** (a) 180 − 150 = 30

30 ÷ 5 = 6

Ans: 6*l*

(b) 150 × 8 = 1200

1200 − 330 = 870

870 ÷ 30 = 29

29 × 5 = 145

145 min = 2h 25min

09 30 → 11 30 → 11 55

Ans: 11 55

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

6k + 7 = 139

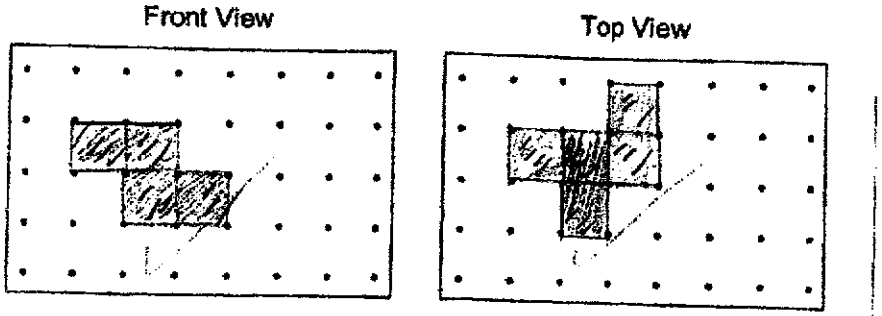
6k = 132

k = 22cm

Ans: 22cm

(b) False, Not possible to tell, False

Q11. (a)




[2]

(b) $25cm^2$

Q12. (a) \$1 : 50c : 20c

6 : 2 : 7

Ans: $\frac{7}{15}$

(b) 6u × 100c = 600u

2u × 50c = 100u

7u × 20c = 140u

600u – 100u – 140u = 360u

360u → 9720

1u → 9720 ÷ 360 = 27

15u → 15 × 27 = 405

Ans: 405

Q13. (a) A : C

3 : 1

30:10

-6: -2

24:8

145% → 116

$\frac{45}{145} \times 116 = 36$

Ans: 36

(b) 8u → 36

1u → 36 ÷ 8 = 4.5

30u → 4.5 × 30 = 135

Ans: 135

Q14. (a) $110 - 90 = 20$

$90 \times 16 = 1440$

$1440 \div 20 = 72$

Ans: 72

(b) $72 + 16 = 88$

$88 + 72 = 160$

$12800 \div 160 = 80$

80min = 1h 20min

Ans: 1h 20min

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

7 shorts $\rightarrow 18u$

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

3 t-shirts $\rightarrow 6u$

1 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) $10 + 10 = 20$

$3.14 \times 20 = 62.8$

$62.8 \div 4 = 15.7$

$3.14 \times 26 = 81.64$

$81.64 \div 2 = 40.82$

$24 + 37.68 + 15.7 + 10 + 40.82 = 128.2$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: $120cm^2$

**Q17. (a)** $90° - 68° = 22°$

$180° - 90° - 22° = 68°$

**Ans: 68°**

**(b)** $180° - 128° = 52°$

$52° \div 2 = 26°$

$180° - 26° - 68° = 86°$

**Ans: 86°**

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END