www.sgexam.com

HENRY PARK PRIMARY SCHOOL
2024 PRELIMINARY EXAMINATION
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.

www.sgexam.com

www.sgexam.com

www.sgexam.com

www.sgexam.com

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. 80 000 + 4 000 + 300 + 7 = ?

What is the missing number in the box?

(1) 80 437

(2) 84 037

(3) 84 307

(4) 84 370

2. The mass of a table is 11 kg when rounded to the nearest kilogramme.
Which of the following **cannot** be the mass of the table?

(1) 10.49 kg

(2) 10.55 kg

(3) 11.08 kg

(4) 11.46 kg

3. Express $5\frac{2}{25}$ as a decimal.

(1) 5.08

(2) 5.25

(3) 5.2

(4) 5.8

www.sgexam.com

www.sgexam.com

4. Which of the following is likely the mass of 10 fifty-cent coins?

(1) 7 g

(2) 70 g

(3) 700 g

(4) 7000 g

5. Mabel slept at 20 45 and wakes up at 06 10 the next day. How long did she sleep?

(1) 9 h 25 min

(2) 10 h 25 min

(3) 10 h 35 min

(4) 14 h 35 min

6. A box contained brown balls and yellow balls in the ratio 3 : 7. There were 84 more yellow balls than brown balls. How many balls were there in the box altogether?

(1) 120

(2) 147

(3) 210

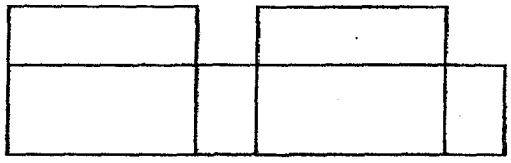
(4) 280

www.sgexam.com

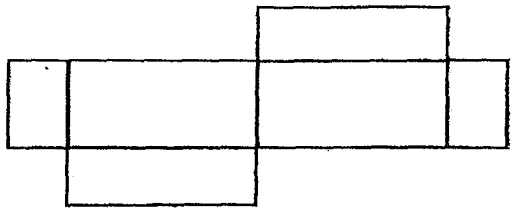
www.sgexam.com

7. Which of the following is a net of a cuboid?

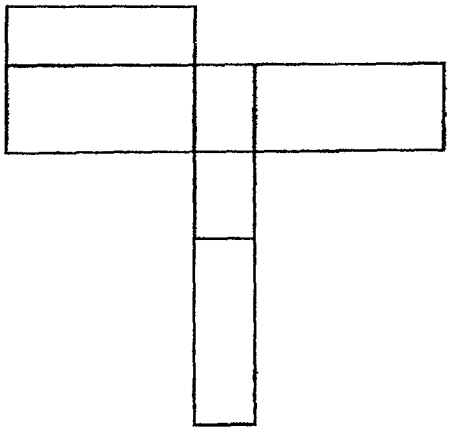
(1)



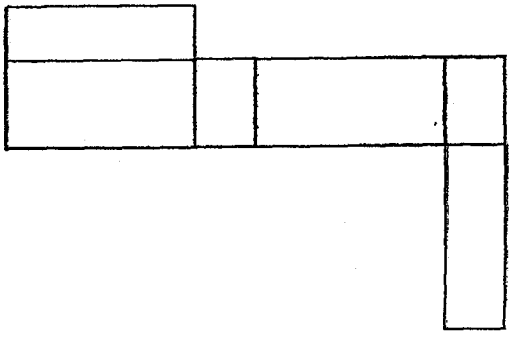
(2)



(3)



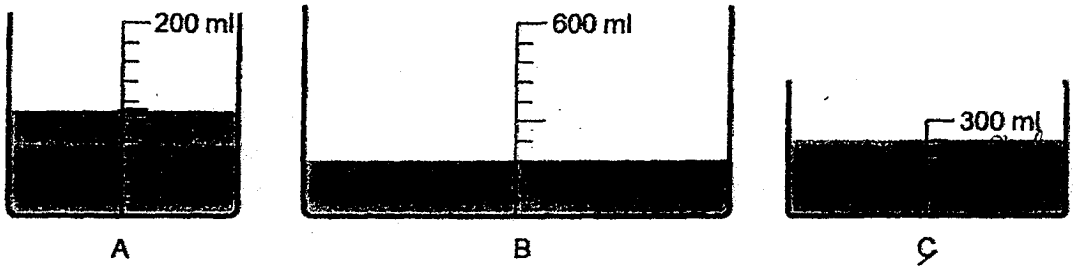
(4)



www.sgexam.com

www.sgexam.com

8. Containers A, B and C are filled with water as shown below. Arrange the containers according to the volume of water they contain from the greatest to the smallest.



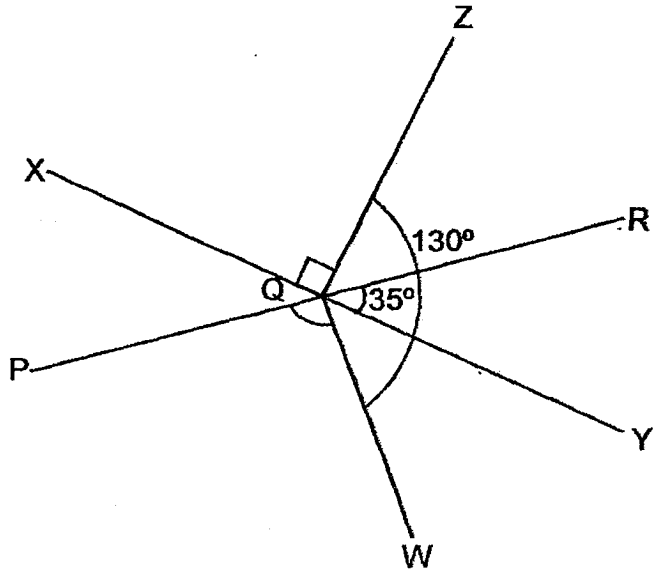
(1) A, B, C

(2) A, C, B

(3) B, C, A

(4) C, B, A

9. In the figure, XQY and PQR are straight lines. $\angle XQZ = 90°$, $\angle ZQW = 130°$ and $\angle RQY = 35°$. Find $\angle PQW$.



(1) 90°

(2) 95°

(3) 105°

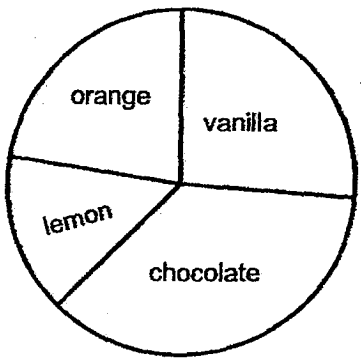
(4) 140°

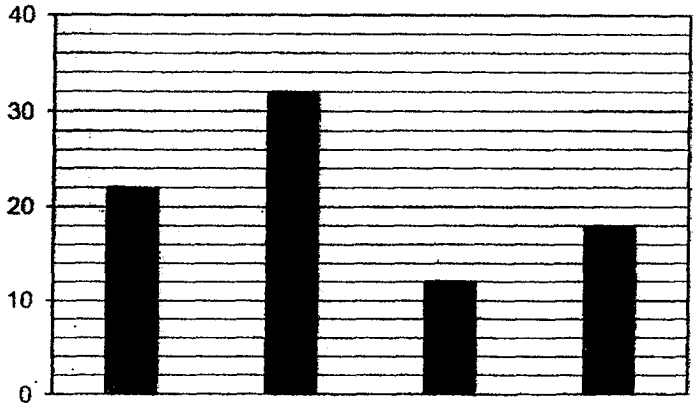
www.sgexam.com

www.sgexam.com

Use the information below to answer Questions **10** and **11**.

The pie chart shows the number of chocolate, vanilla, lemon and orange muffins Darren baked. The same information is represented in the bar graph but the flavours are not shown.





10. How many orange muffins did Darren bake?

(1) 12

(2) 18

(3) 22

(4) 32

11. Express the number of lemon muffins as a fraction of the total number of vanilla and chocolate muffins.

(1) $\frac{1}{7}$

(2) $\frac{2}{9}$

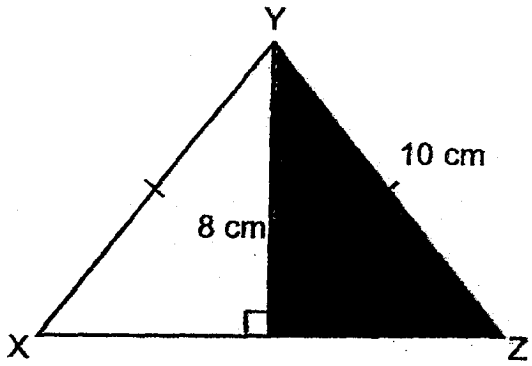
(3) $\frac{6}{11}$

(4) $\frac{6}{25}$

www.sgexam.com

www.sgexam.com

12. Triangle XYZ has a perimeter of 32 cm. Find the area of the shaded part.



(1) 24 cm^2

(2) 30 cm^2

(3) 40 cm^2

(4) 48 cm^2

13. The table below shows the number of files in bookshops A and B.

Bookshop	Number of files	Percentage of red files
A	200	25%
B	600	60%

Find the total number of files in bookshops A and B which are **not** red.

(1) 120

(2) 390

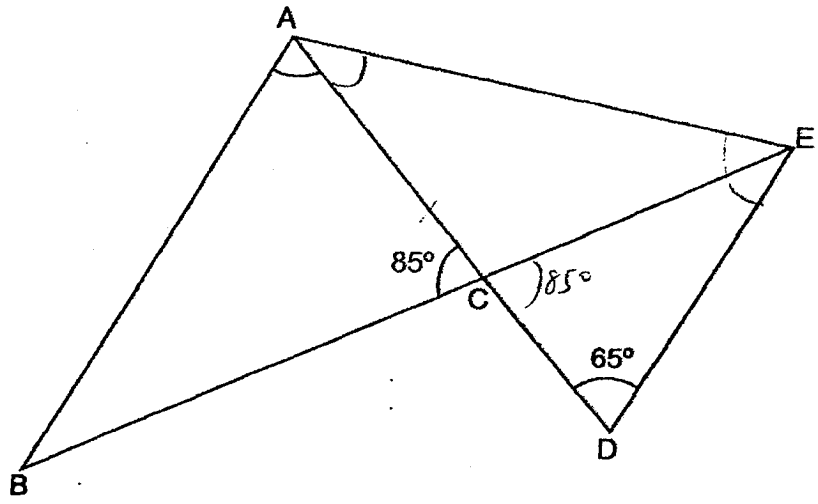
(3) 410

(4) 680

www.sgexam.com

www.sgexam.com

14. ABE and ADE are isosceles triangles. AB = AD = AE, ∠ACB = 85° and ∠ADE = 65°. Find ∠BAD.



(1) 50°

(2) 55°

(3) 60°

(4) 85°

15. $\frac{1}{6}$ of the books in a class library were fiction books and the rest were non-fiction books. When the number of fiction books was increased by 100% and the number of non-fiction books increased by 50%, Mr Lim found that he had an additional 168 books in the library. How many books were there in the class library at first?

(1) 112

(2) 144

(3) 288

(4) 294

www.sgexam.com

www.sgexam.com

HENRY PARK PRIMARY SCHOOL
2024 PRELIMINARY EXAMINATION
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.

www.sgexam.com

www.sgexam.com

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

(5 marks)

16. Find the value of $8 \div \frac{4}{5}$

Ans: _____

Please do not write in the margin.

17. Write down all the common multiple(s) of 6 and 8 that is/are less than 50.

Ans: _____

Please do not write in the margin.

18. Express 50 kg 60 g in grams.

Ans: _____ g

Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

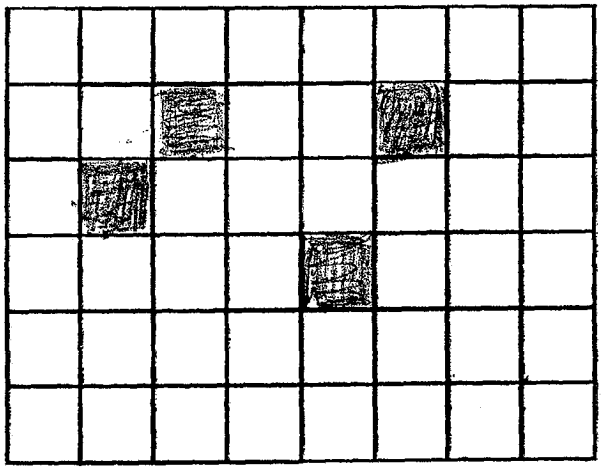
19. The number of children at a swimming club in May, June and July was in the ratio 4 : 5 : 7. There were 336 children at the swimming club in May.
What was the total number of children at the swimming club in June and July?

Ans: _____

Please do not write in the margin.

Please do not write in the margin.

20. Four small squares are shaded in the figure below.



Shade 2 more squares in the given figure so that it has a line of symmetry.

Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

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)

21. The table shows the heights of plants A, B, C and D in January and February.

Plant	January (height in cm)	February (height in cm)
A	9	35
B	10	29
C	12	41
D	18	37

(a) Find the ratio of the heights of plant B to plant C to plant D in January. Give your answer in the simplest form.

Ans: (a) _____

(b) Name the plant with the greatest difference in heights between January and February. Find this difference.

(b) Plant _____

Difference: _____ cm

Please do not write in the margin.

Please do not write in the margin.

22. Peter had 2 pails, each containing 1200 cm^3 of water. He poured all the water from both pails into an empty tank with no spillage. The tank had a square base of side 20 cm. Find the height of the water level in the tank.

Ans: _____ cm

www.sgexam.com

www.sgexam.com

23. Muthu had 5 identical containers. Each container was filled with the same amount of paint. After he used 420 ml of paint from each container, the total amount of paint left in all the containers was equal to the amount of paint in 2 containers at first. What was the total amount of paint in the 5 containers at first?

Ans: _____ ml

Please do not write in the margin.

Please do not write in the margin.

24. During a sale, a shop sold t-shirts at a discount of $15 per t-shirt. Members were given a further discount of 25% on all purchases. Elaine is a member and paid $216 for 6 such t-shirts. What is the price of each t-shirt without any discount?

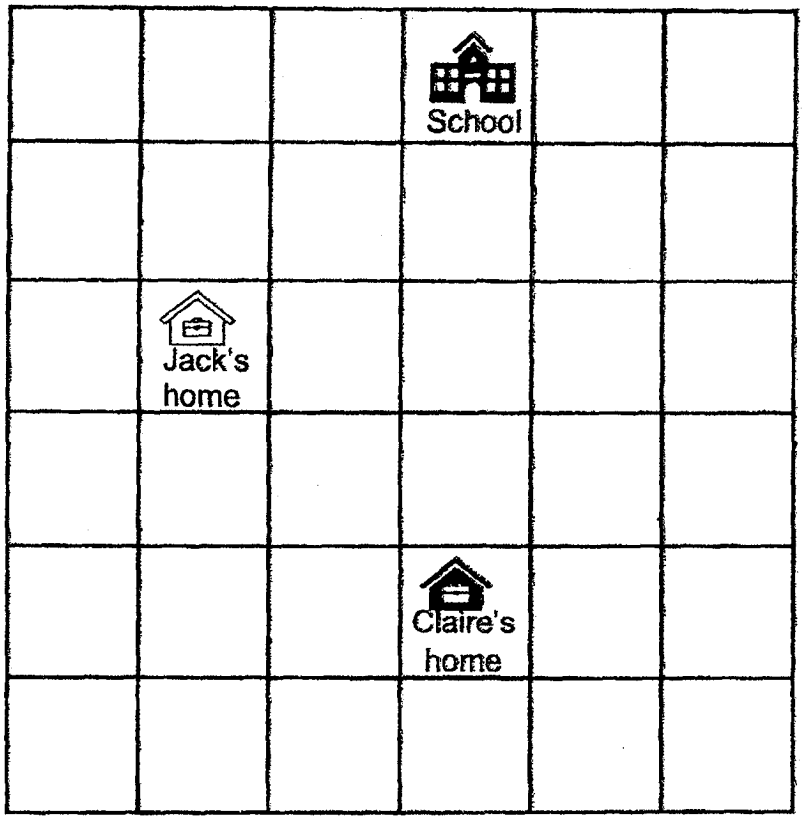
Ans: $_____

www.sgexam.com

Please do not write in the margin.

www.sgexam.com

25. Jack's home, Claire's home and their school are located in the square grid below.



(a) In what direction is Jack's home from Claire's home?

Ans: (a) _____

(b) A market is located south-east of the school and north-east of Claire's home. Put a cross (X) in the square grid where the market is.

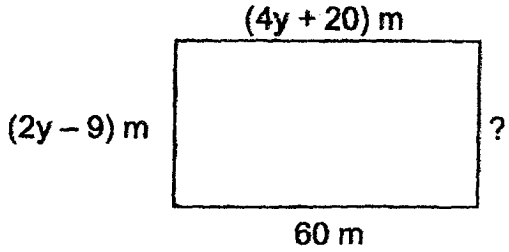
Please do not write in the margin.

Please do not write in the margin.

www.sgexam.com

www.sgexam.com

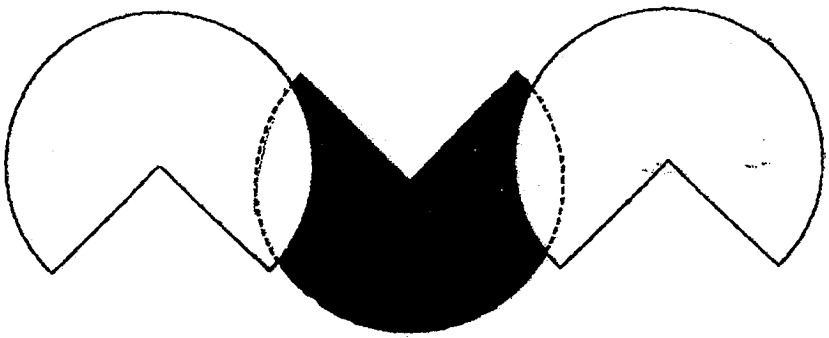
26. Find the value of the breadth of the rectangle.



Ans: _____ m

Please do not write in the margin.

27. Zhi Han used 3 identical $\frac{3}{4}$ - circles of radius 28 cm to form the figure shown below. Some parts of the circles overlapped each other. Find the perimeter of the shaded part of the figure. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

www.sgexam.com

Please do not write in the margin.

www.sgexam.com

28. Ashley baked 500 cookies. $\frac{3}{5}$ of them were chocolate cookies, $\frac{1}{4}$ of them were butter cookies and the rest were raisin cookies. She sold $\frac{2}{5}$ of the raisin cookies. How many raisin cookies did Ashley sell?

Ans: _____

Please do not write in the margin.

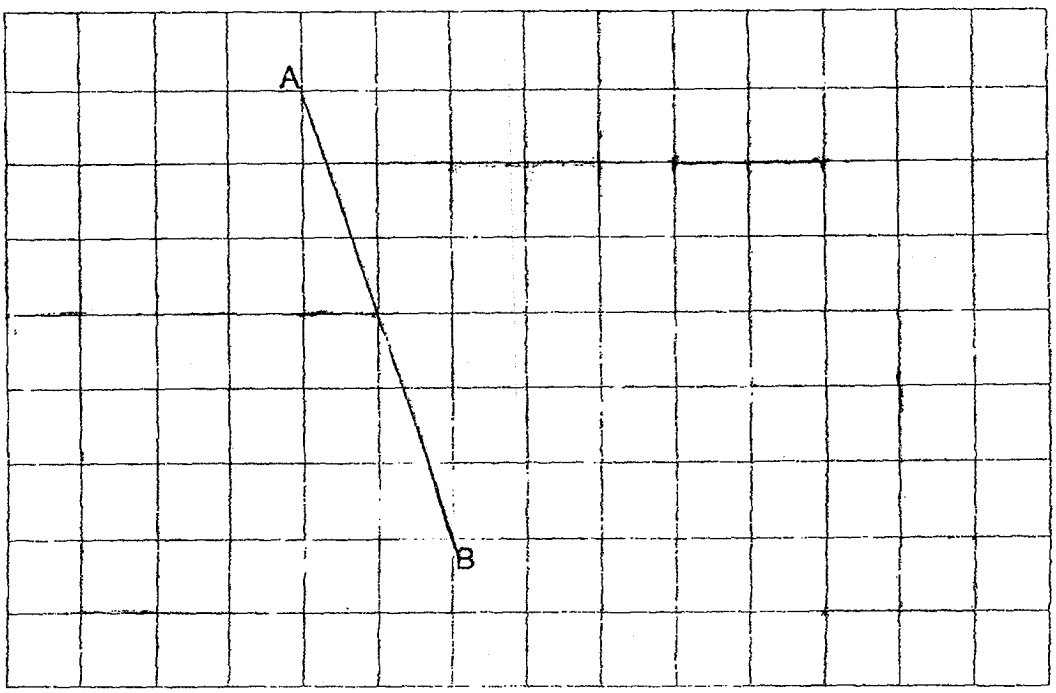
Please do not write in the margin.

29. The square grid shows line AB.

a) AB is one side of a trapezium ABCD with ∠ABC = 90° and AB is parallel to CD. BC and CD are half the length of AB. Draw trapezium ABCD.

b) EFGH is a parallelogram with the same perimeter as trapezium ABCD. Draw parallelogram EFGH such that it does not overlap with trapezium ABCD.

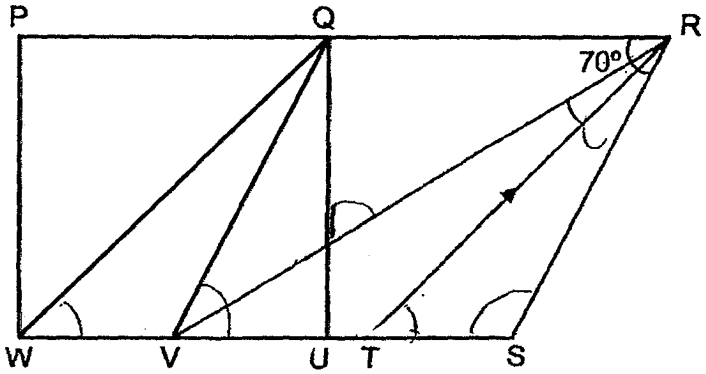
Use a pencil to draw your diagrams and label them clearly.



www.sgexam.com

www.sgexam.com

30. In the figure below, PQUW is a square and QRSV is a rhombus. QW is parallel to RT and $\angle QRS = 70°$. PQR and WUS are straight lines. Find $\angle VRT$.



Please do not write in the margin.

Please do not write in the margin.

Ans: _____ °

Please do not write in the margin.

www.sgexam.com

www.sgexam.com

HENRY PARK PRIMARY SCHOOL
2024 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 2

Parent's Signature

_____

Name: _____ ( )

Class: Primary 6_____

/ 55

Time for Paper 2: 1 hour 30 minutes

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.

www.sgexam.com

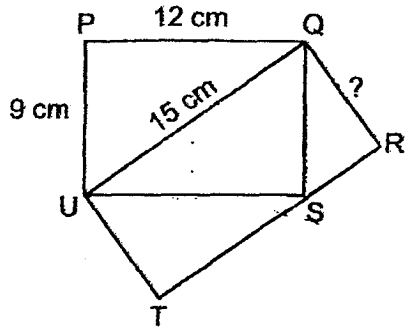
www.sgexam.com

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)

---

1. PQSU and QRTU are rectangles where PQ = 12 cm, QU = 15 cm and UP = 9 cm. Find the length of QR.



Ans: _____ cm

---

2. The average of four whole numbers is 281. Two of the numbers are 371 and 109. What is the smallest difference between the remaining two numbers? Write down these two numbers.

Ans: Smallest Difference _____

Numbers: _____ , _____

Please do not write in the margin.

Please do not write in the margin.

Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

3. Amy used 7 identical rhombuses to form figure A. Beth added 2 more such rhombuses to figure A to form figure B. The perimeter of Figure A is 156 cm. Find the perimeter of Figure B

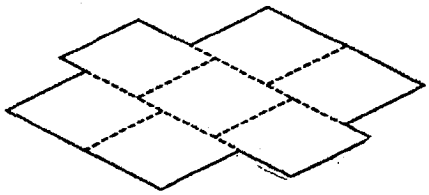


Figure A

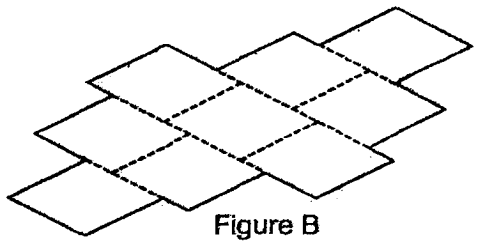


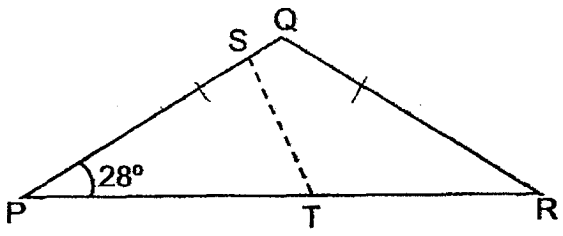
Figure B

Please do not write in the margin.

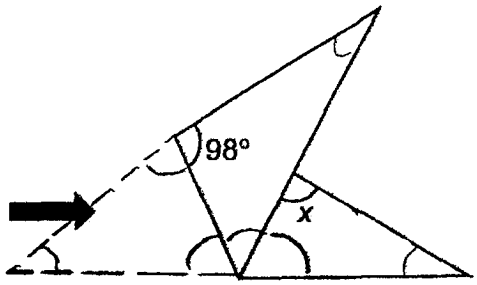
Please do not write in the margin.

Ans: _____ cm

4. A piece of paper in the shape of an isosceles triangle, PQR, is folded along the dotted line ST as shown below. Find $\angle x$.



Before folding



After folding

Ans: _____ °

Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

5. Danny and Eric started jogging from Point A to Point B at the same time. Both did not change their speeds throughout. After 20 minutes, Danny was 200 m behind Eric. When Eric completed the remaining distance of 5 km, Danny was 600 m away from Point B. What was Danny's jogging speed?

Please do not write in the margin.

Please do not write in the margin.

Ans: _____ m/min

Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

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)

---

6. At first, Jason had $210 and Ruth had $154. After they both spent an equal amount of money, the amount of money Jason and Ruth each had left were in the ratio 7 : 3. How much did each of them spend?

Please do not write in the margin.

Please do not write in the margin.

Ans: _____ [3]

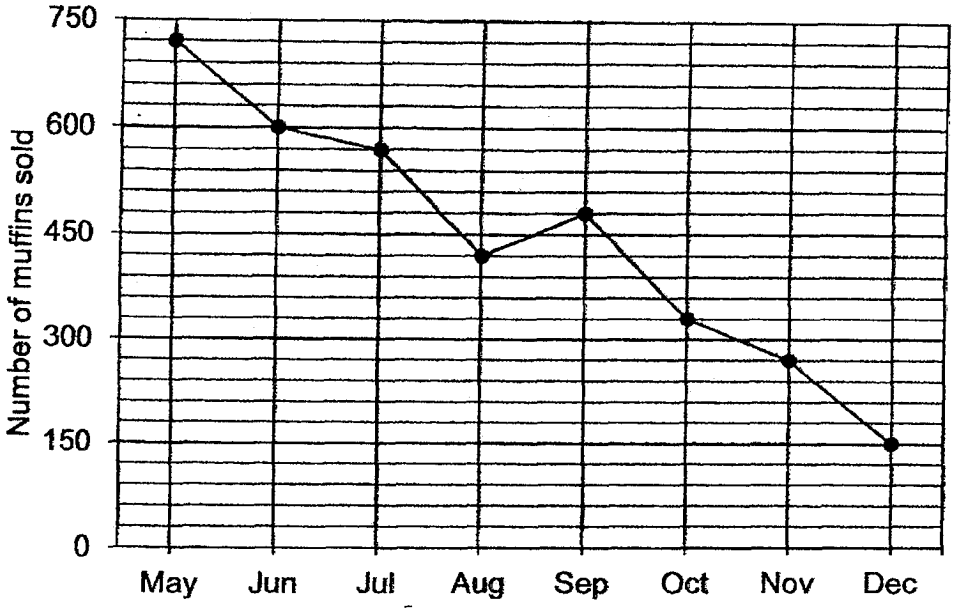
Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

7. The graph below shows the number of muffins a bakery sold each month from May to December.



(a) Find the average number of muffins sold per month from May to August.

Ans: (a) _____ [1]

(b) Based on the number of muffins sold from October to December, the bakery wants to increase the number of muffins sold by 30% in the first 3 months of next year. What is the targeted total number of muffins to be sold in the first 3 months of next year?

Ans: (b) _____ [2]

Please do not write in the margin.

www.sgexam.com

(Go to the next page)

www.sgexam.com

8. Four children received their scores for a quiz. Ariel scored $8x$ points. Bella scored 12 points more than Ariel. The number of points Bella scored was half the number of points Charlene scored. Darrell scored 7 points.

(a) Complete the table below to show the number of points Bella and Charlene each scored. The number of points Ariel and Darrell scored has been filled in for you. Give your answer in terms of x in the simplest form. [1]

Names	Number of points
Ariel	$8x$
Bella	
Charlene	
Darrell	7

(b) Find the total score of the four children when $x = 15$.

Ans: (b) _____ [2]

Please do not write in the margin.

Please do not write in the margin.

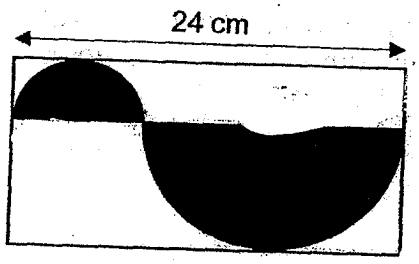
Please do not write in the margin.

(Go on to the next page)

www.sgexam.com

www.sgexam.com

9. Janice drew and shaded a large semicircle and small semicircle on a rectangular piece of paper of length 24 cm. The diameter of the large semicircle is twice that of the small semicircle. Find the total area of the unshaded parts of the paper.
(Take $\pi = 3.14$)



Please do not write in the margin.

Please do not write in the margin.

Ans: _____ [3]

Please do not write in the margin.

www.sgexam.com

(Go to the next page)

www.sgexam.com

10. Boxes A and B contain an equal number of coins. $\frac{1}{4}$ of the coins in Box A are 10-cent coins while the rest are 50-cent coins. $\frac{1}{3}$ of the coins in Box B are 10-cent coins while the rest are 20-cent and 50-cent coins.

(a) Given that the total value of all the coins in Box A is $86.40, find the total number of coins in Box B.

Ans: (a) _____ [2]

(b) The total value of all the coins in Box B is $50.10.
Find the number of 20-cent coins in Box B.

Ans: (b) _____ [3]

Please do not write in the margin.

Please do not write in the margin.

Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

11.

Storewide Closing Down Sale

1st item at 40% discount

2nd item at 50% discount

Price of the 2nd item should be equal to or lower than price of the 1st item

Mary and Gary each bought two items at the store during the sale.

(a) Mary bought 2 different bags. The original price of one of the bags was $280 while the original price of the other bag was $499. How much did she pay in total for both bags?

Ans: (a) _____ [1]

(b) After discount, Gary spent $1669.80 on two identical watches. Find the price of each identical watch before discount.

Ans: (b) _____ [2]

Please do not write in the margin.

Please do not write in the margin.

Please do not write in the margin.

(Go to the next page)

www.sgexam.com

www.sgexam.com

12. Shops Q, R and S sell ice-cream in 2 sizes, small tubs and big tubs. A small tub of ice-cream is sold for $12 and a big tub of ice-cream sold is sold for $18. The table below shows the number of tubs of ice-cream sold by each shop. The number of tubs of ice-cream sold by shop S is covered by ink blots.

Shop	Number of tubs of ice-cream sold	
	Small tub	Big tub
Q	15	9
R	10	15
S	[redacted]	[redacted]

(a) What is the total amount of money collected by shops Q and R from the sale of all the small and big tubs of ice cream?

Ans: (a) _____ [2]

(b) Shop S sold as many tubs of ice-cream as Shop Q but collected $66 more. How many small tubs of ice-cream did Shop S sell?

Ans: (b) _____ [2]

Please do not write in the margin.

Please do not write in the margin.

Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

13. The printing rates of three machines, A, B and C, are as shown.

Machine A	Machine B	Machine C
360 posters per hour	180 posters per hour	230 posters per hour

At 1100, Gwen started to print posters using only Machine A. Half an hour later, while machine A continued printing, she started printing posters with machines B and C as well. How long would machine B and C take to print the same number of posters as Machine A? Express your answers in hours and minutes.

Please do not write in the margin.

Please do not write in the margin.

Ans: _____ [3]

Please do not write in the margin.

(Go to the next page)

www.sgexam.com

www.sgexam.com

14. Figure X shows a rectangular block of wood of length 78 cm and breadth 39 cm.

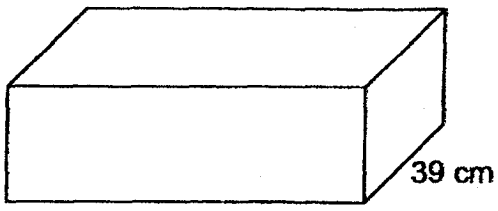


Figure X

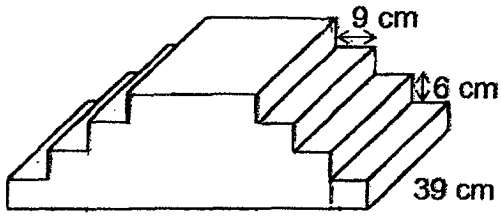


Figure Y

From the block of wood, Kevin cut out a stand with identical steps on both sides as shown in figure Y. Each step measures 6 cm in height and 9 cm in length.

(a) What is the height of the original block of wood?

Ans: _____ [1]

(b) Find the volume of the block of wood used for figure Y.

Ans: _____ [3]

Please do not write in the margin.

Please do not write in the margin.

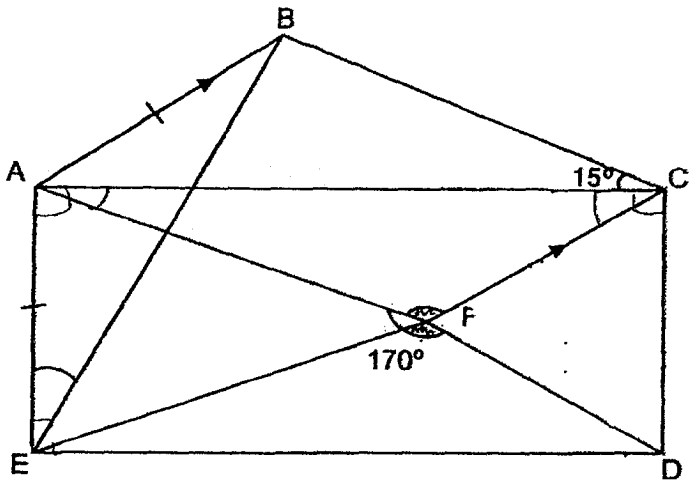
Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

15. In the figure, ACDE is a rectangle, CDF is an equilateral triangle and ABE is an isosceles triangle. ∠BCA = 15°, ∠AFD = 170° and AB is parallel to FC.



(a) Find ∠AFC.

Ans: (a) _____ [1]

(b) Find ∠AEB.

(b) _____ [3]

(c) Circle the words that describe ABCF correctly in the following statement:

ABCF (is / is not) a parallelogram because AF (is / is not) parallel to BC.[1]

Please do not write in the margin.

Please do not write in the margin.

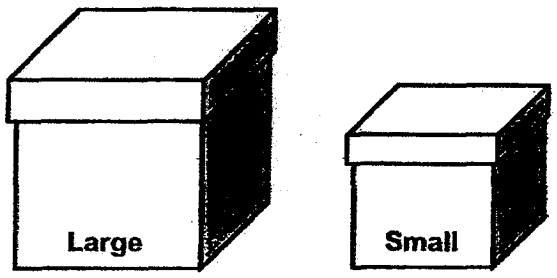
Please do not write in the margin.

(Go to the next page)

www.sgexam.com

www.sgexam.com

16. Joanne completely packed two types of boxes, large and small, with identical bottles of oil. After she packed 14 large boxes and 18 small boxes completely with 1914 bottles of oil, she had some bottles remaining.



She could not completely pack another large box with the remaining bottles as she was short of 15 bottles. Instead, she completely packed another small box and had 12 bottles left. How many bottles did Joanne have?

Please do not write in the margin.

Please do not write in the margin.

Ans: _____ [4]

Please do not write in the margin.

www.sgexam.com

(Go on to the next page)

www.sgexam.com

17. Jaya used grey and white squares to form the figures that follow a pattern as shown below.

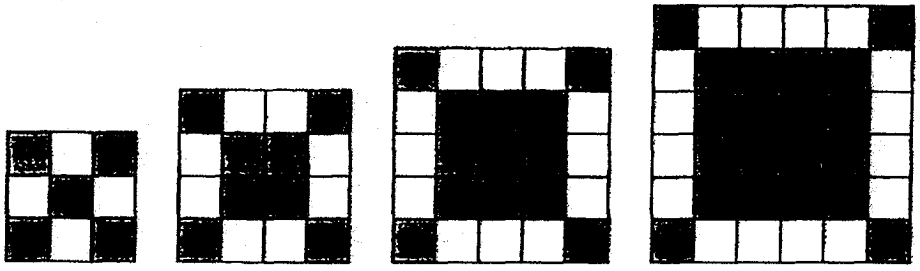


Figure 1 Figure 2 Figure 3 Figure 4

(a) The table shows the number of grey and white squares for the first 4 figures. Complete the table for Figure 5. [1]

Figure Number	Number of grey squares used	Number of white squares used	Total number of squares used
1	5	4	9
2	8	8	16
3	13	12	25
4	20	16	36
5			
. . .	. . .	. . .	. . .
x	. . .	. . .	. . .
y	. . .	. . .	. . .

Please do not write in the margin.

Please do not write in the margin.

Question 17 (b) and (c) *continue on the next page.*

Please do not write in the margin.

www.sgexam.com

(Go to the next page)

www.sgexam.com

17. *(continued)*

(b) Jaya used 1004 white squares to form a figure. What was the total number of white and grey squares used for the figure?

Ans: _____ [2]

(c) In the table above, the difference between the total numbers of squares used in Figure *x* and Figure *y* is 497. Find the value of the *y*.

Ans: _____ [2]

Please do not write in the margin.

Please do not write in the margin.

Please do not write in the margin.

Setters: Mdm Ong Li Ling, Mrs Elaine Chua, Mr Darren Lau, Mrs Irene Tan & Mrs Esther Ang

End of Paper 2

www.sgexam.com

www.sgexam.com

www.sgexam.com

www.sgexam.com

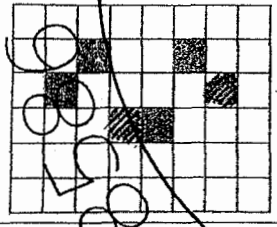
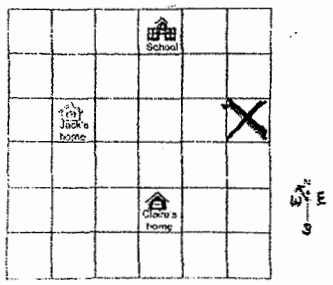
ANSWER KEY

YEAR : 2024
LEVEL : PRIMARY 6
SCHOOL : HENRY PARK
SUBJECT : MATHEMATICS
TERM : PRELIMINARY

BOOKLET A (PAPER 1)

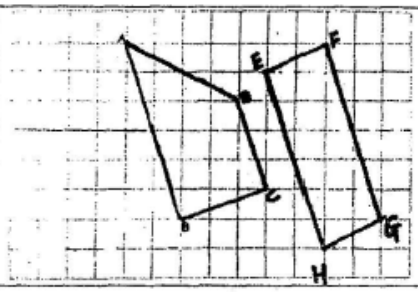
Q1	3	Q2	1	Q3	1	Q4	2	Q5	1
Q6	3	Q7	4	Q8	4	Q9	3	Q10	2
Q11	2	Q12	1	Q13	2	Q14	3	Q15	3

BOOKLET B (PAPER 1)

Q16	$\frac{8}{1} x \frac{5}{4} = \frac{10}{1} = 10$	Q17	24 & 48
Q18	50060g	Q19	4u = 336 1u = 336 ÷ 4 = 84 12u = 84 x 12 = 1008
Q20		Q21	a) 5 : 6 : 9 b) Plant C Difference : 29cm
Q22	1200 x 2 = 2400 20 x 20 = 400 2400 ÷ 400 = 6cm	Q23	420 x 5 = 2100 2100 ÷ 3 = 700 700 x 5 = 3500ml
Q24	216 ÷ 6 = 36 75% of $ → 36 100% of $ → 36 ÷ 3 x 4 = 48 48 + 15 = $63	Q25	a) North – West b) 
Q26	60 – 20 = 40 40 ÷ 4 = 10 (y) 10 x 2 = 20 20 - 9 = 11m	Q27	$\frac{22}{7}$ x $\frac{3}{4}$ x 56 = 132 132 + 28 + 28 = 188cm

www.sgexam.com

www.sgexam.com

Q28	500 ÷ 20 = 25 25 x 3 = 75 75 ÷ 5 = 15 15 x 2 = 30 raisin cookie	Q29	
Q30	<RSU → 180° - 70° = 110° <TRS → 180° - 45° - 110° = 75° <VRT → (70÷2) - 25° = 10°		

PAPER 2

Q1	$\frac{1}{2}$ x 5 x 9 = 54 54 x 2 = 108 108 ÷ 15 = 7.2cm	Q2	Smallest difference : 0 Numbers : 322 , 322
Q3	12u→156 1u → 156 ÷ 12 = 13 16u → 13 x 16 = 208cm	Q4	180° - 98° - 28° = 54° 180° - 54° - 54° = 72° 180° - 72° - 28° = 80°
Q5	E 5000 ÷ 40 = 125 Dist in 20min→125 x 20 = 2500 D Dist in 20min→2500-200=2300 Speed = 2300÷20 = 115m/min	Q6	210 – 154 = 56 4u = 56 1u = 56 ÷ 4 = 14 14 x 7 = 98 210 – 98 = $112
Q7	a) 720 + 600 + 570 + 420 = 2310 2310 ÷ 4 = 577.5 b) 330 + 270 + 150 = 750 100% → 750 1% → 7.5 130% → 7.5 x 130 = 975	Q8	a) b) 8x + 8x + 16 = 32x 32x -> 15x 32 = 480 480+12 + 24 + 7 = 523

Names	Number of points
Ariel	8x
Bella	8x + 12
Charlene	16x + 24
Darrell	7

Q9	3.14 x 4 x 4 x ½ = 25.12 3.14 x 8 x 8 x ½ = 100.48 Breadth of rec = 4 +8 = 12 Area of rec = 12 x 24 = 288 288 – 100.48 – 25.12 = 162.4 cm^2	Q10	a) Val in box A -> (50 x 3) + 10 = 160 8640 ÷ 160 = 54 54 x 4 = 216 coins b) 5010 – 720 = 4290 216 – 72 = 144 144 x 50 = 7200 7200 – 4290 = 2910

www.sgexam.com

www.sgexam.com

			29.10 ÷ 0.30 = 97
Q11	a) 60% x 499 = 299.40 50% x 200 = 140 140 + 299.40 = $439.40 b) 200% - 40% - 50% = 110% 110% → 1669.80 1% → 1669.80 ÷ 110 =15.18 200% → 15.18 x 200 = 3036 3036 ÷ 2 = $1518	Q12	a) 15s → 12 x 25 = 300 24B → 24 x 18 = 432 300 + 432 = $732 b) 15 + 9 =24 60 ÷ (18 – 12) = 11 24 – 1 – 9 = 4
Q13	360 ÷ 2 = 180 180 + 230 = 410 (B+C) 410 – 360 = 50 180 ÷ 50 = 3.6h ANS : 3h 36min	Q14	a) 6 x 4 = 24cm b) 24 x 24 x 39 = 22464 (9 x 6 x 39)x 12 = 25272 22464 + 25272 = 47736cm^3
Q15	a) 360° - 170° - 60° = 130° b) 90° - 60° = 30° (180° - 90° - 30°)÷ 2 =30° c) is not / is not	Q16	12 + 15 = 27 27 x 14 = 378 1914 – 378 = 1536 14 + 18 = 32 1536 ÷ 32 = 48 1914 + 48 + 12 = 1974
Q17	a) Figure 5 Grey → 29 White → 20 Total → 49 b) 1004 ÷ 4 = 251 251 + 2 = 253 253 x 253 = 64009 c) 497 – 7 = 490 490 ÷ 2 = 245 245 + 2 = 247		

Delivery: 98518226, 81612644, 98518226, 98518226

END

www.sgexam.com

www.sgexam.com

www.sgexam.com