2022 PRIMARY 6 PRELIMINARY EXAMINATION

Name: _____ ( ) Date: 19 August 2022

Class: Primary 6 ( ) Time: 8.00 a.m. - 9.00 a.m.

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS
PAPER 1
(BOOKLET A)

20

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.
6. You are **not** allowed to use a calculator.

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

1. Round 324 456 to the nearest hundred.

(1) 320 000
(2) 320 060
(3) 324 400
(4) 324 500

2. Express 0.375 as a percentage.

(1) 375%
(2) 37.5%
(3) 3.75%
(4) 0.375%

3. Arrange these fractions in descending order.

$\frac{11}{12}$, $\frac{5}{6}$, $\frac{3}{4}$, $\frac{7}{9}$

(1) $\frac{3}{4}$, $\frac{5}{6}$, $\frac{7}{9}$, $\frac{11}{12}$

(2) $\frac{11}{12}$, $\frac{7}{9}$, $\frac{5}{6}$ $\frac{3}{4}$

(3) $\frac{3}{4}$, $\frac{7}{9}$, $\frac{5}{6}$, $\frac{11}{12}$

(4) $\frac{11}{12}$, $\frac{5}{6}$, $\frac{7}{9}$, $\frac{3}{4}$

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4. How many seconds are in $\frac{3}{5}$ hour?

(1) 36
(2) 60
(3) 2160
(4) 6000

5. $340 \times 2.2 = 340 \times \square \times 22$

What is the missing number in the box?

(1) 1.00
(2) 0.10
(3) 0.01
(4) 10.0

6. Ali, Eddy, Gabriel and Harish wanted to try go-kart driving. The driver has to be taller than 1.4 m. Who is able to drive the go-kart?

Name	Height
Ali	1 m 4 cm
Eddy	1 m 40 cm
Gabriel	1 m 5 cm
Harish	1 m 54 cm

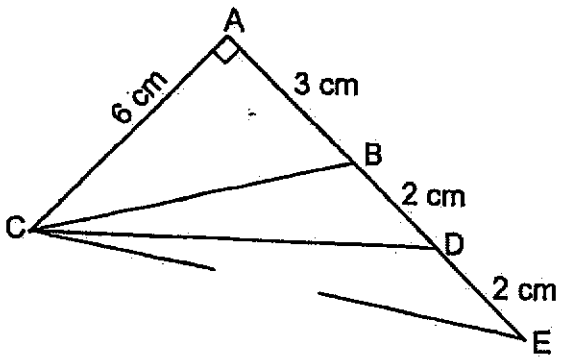


(1) Ali
(2) Eddy
(3) Gabriel
(4) Harish

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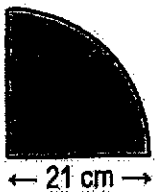
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7. Which one of the triangles has an area of 12 cm^2 ?



(1) Triangle ABC
(2) Triangle BCD
(3) Triangle BCE
(4) Triangle ACD

8. Find the perimeter of the quarter circle. (*Take* $\pi = \frac{22}{7}$)



(1) 33 cm
(2) 75 cm
(3) 132 cm
(4) 174 cm

9. Jeff is facing north. He makes a $\frac{1}{4}$ – turn clockwise followed by $\frac{1}{2}$ – turn anticlockwise. From here, he makes a final turn to face south-east. Find the angle that he has to make for the final turn.

(1) 135° anticlockwise
(2) 45° anticlockwise
(3) 135° clockwise
(4) 45° clockwise

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10. Study the table carefully.

Machine	Copies Printed	Duration (min)
A	120	3
B	180	4
C	220	4
D	240	5

Which machine printed the most number of copies per minute?

(1) A
(2) B
(3) C
(4) D

11. Matthew is thrice as old as his sister. In 5 years' time, their total age will be h years old. How old is his sister now?

(1) $(\frac{h-5}{4})$ years old
(2) $(\frac{h-10}{4})$ years old
(3) $(\frac{h-15}{2})$ years old
(4) $(\frac{5h}{3})$ years old

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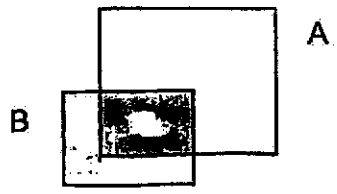
12. Mr Loh planted 120 pots of orchids and roses. $\frac{3}{5}$ of the pots were orchids. Among the roses, there was an equal number of pots of red and pots of yellow roses. How many pots of yellow roses were there?

(1) 20
(2) 24
(3) 36
(4) 80

13. The average age of 3 dogs was 12 years old. The age of each dog was different. The youngest dog was 8 years old. Which one of the following was a possible age of the oldest dog?

(1) 15
(2) 14
(3) 13
(4) 12

14. The ratio of the area of Rectangle A to the shaded area of Rectangle A is 7 : 2. The ratio of the area of Rectangle B to the unshaded area of Rectangle B is 5 : 2. Find the ratio of the unshaded area of Rectangle A to the area of the whole figure.

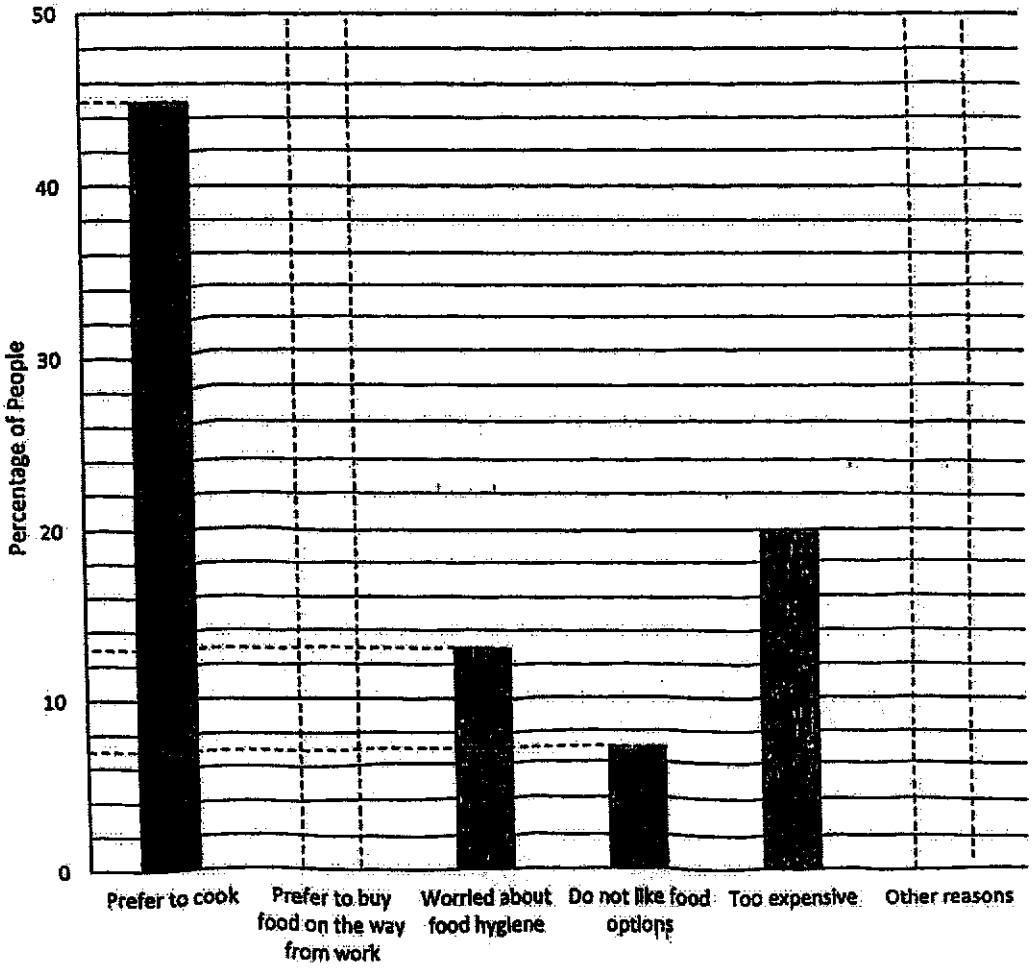


(1) 1 : 2
(2) 1 : 7
(3) 3 : 5
(4) 3 : 7

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15. The bar graph shows the reasons for people not using online food delivery platforms.



The percentage of people who preferred to buy food on the way home from work was twice the percentage of people who gave other reasons. Find the percentage of people who gave other reasons.

(1) 15
(2) 10
(3) 5
(4) 4

End of Booklet A

Go on to Booklet B

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2022 PRIMARY 6 PRELIMINARY EXAMINATION

Name: _____ ( ) Date: 19 August 2022

Class: Primary 6 ( ) Time: 8.00 a.m. - 9.00 a.m.

Parent's Signature: _____

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS
PAPER 1
(BOOKLET B)

25

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
2. Do not turn over 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 tape or highlighters.
7. You are **not** allowed to use a calculator.

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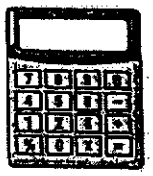
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Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

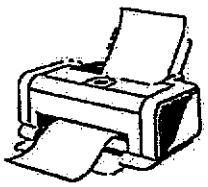
16. Express $7\frac{3}{25}$ as a decimal.

Ans: _____

17. Debbie bought a calculator and a printer at Great Store. She was given a 10% discount for both items. How much did she pay for both items?



Usual Price
$25



Usual Price
$95

Ans: $_____

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18. Tammy recorded the following temperatures for 2 days.

Day 1	30°C
Day 2	24°C

Find the percentage change in the temperature for Day 2.

Ans: _____ %

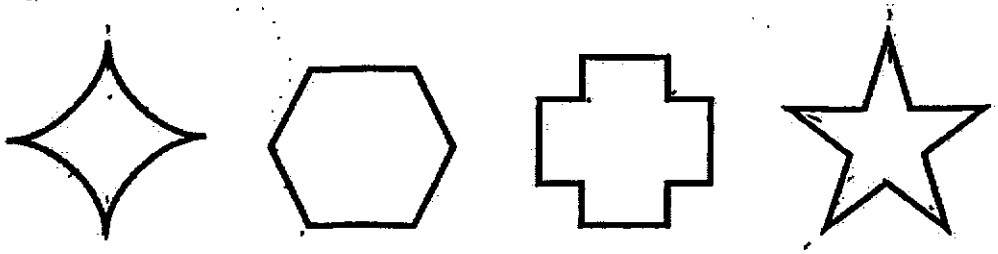
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19. Find the maximum number of 2-cm cubes that can be put into a box measuring 10 cm by 8 cm by 5 cm.

Ans: _____

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20. Which one of the following shapes has the greatest number of lines of symmetry?



(A) (B) (C) (D)

Ans: _____

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Questions **21** to **30** 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. (20 marks)

21. Find the value of the following when k = 3.

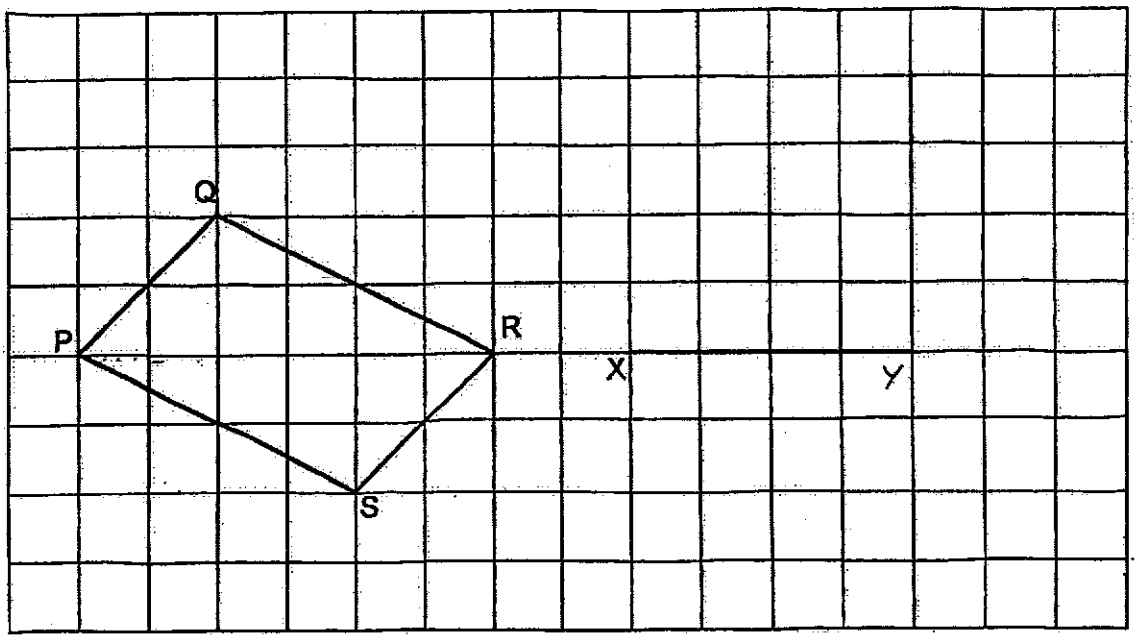
(a) $15 + 2k$

Ans: (a) _____

(b) $k - \frac{5}{9}$

Ans: (b) _____

22. A parallelogram PQRS is drawn on a square grid.



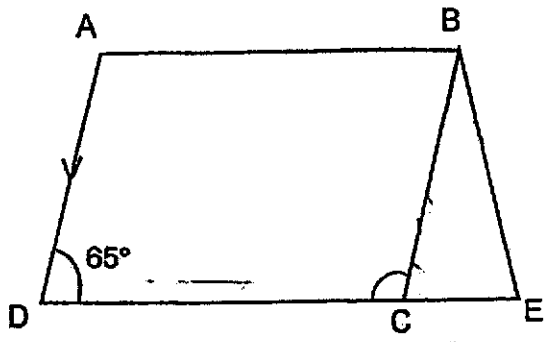
Using the line XY, draw a Triangle XYZ such that ∠XYZ is a right-angle and its area is half the area of the parallelogram PQRS.
Measure ∠ZXY.

Ans: _____°

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23. The figure below is not drawn to scale. Triangle BCE is an isosceles triangle. BC is parallel to AD. DCE is a straight line.



(a) Find ∠DCB.

Ans: (a) _____ °

(b) Find ∠CBE.

Ans: (b) _____ °

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24. In the equation below, the ones digits of the 2 numbers are not shown. The sum of the 2-digit numbers is 180. The difference between them is the greatest possible. What are the 2 numbers?

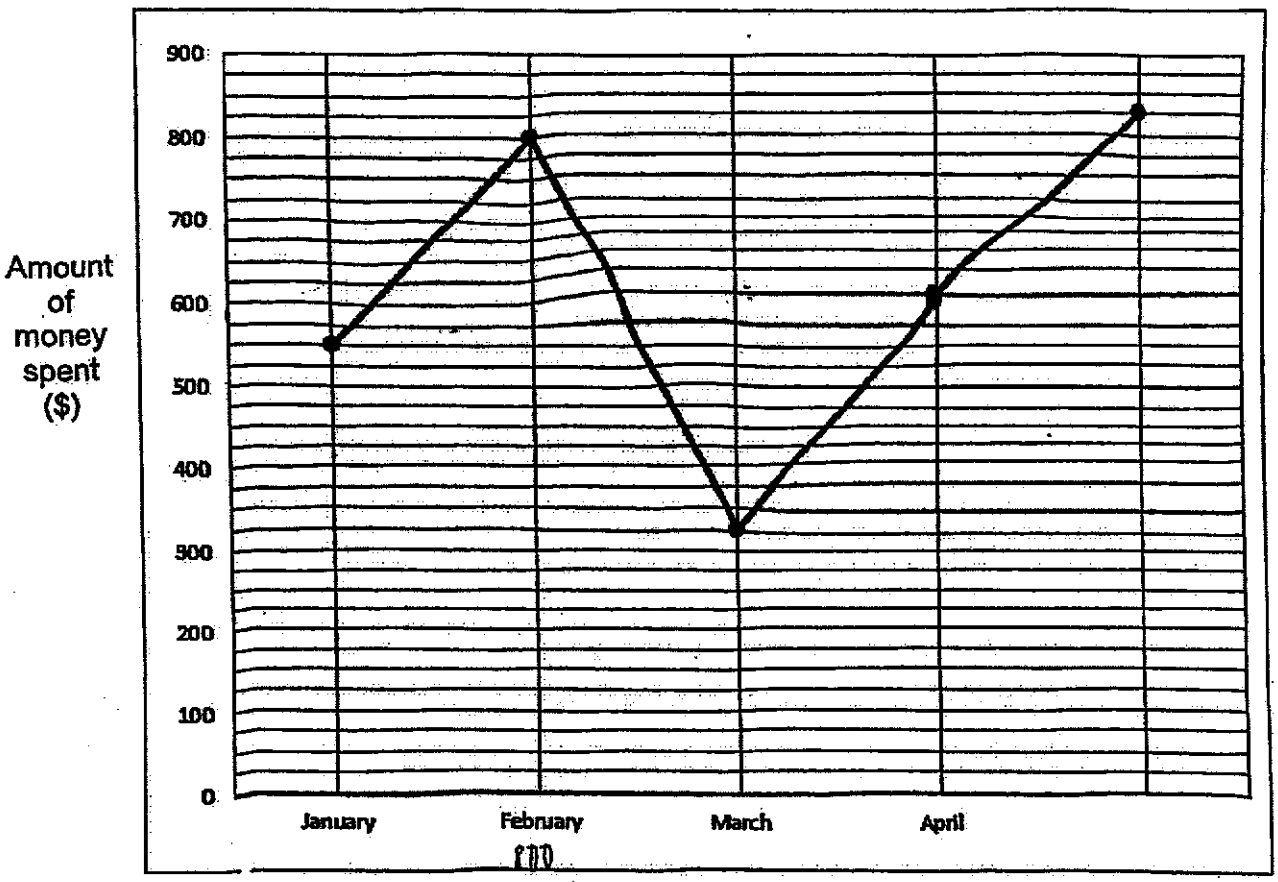
8 ✸ + 9 ✸ = 180

Ans: _____ & _____

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25. The line graph shows the amount of money Jackie spent from January to May.



(a) Find the increase in the amount of money spent between January and February.

Ans: (a) $ _____

(b) Between which 2 months was there the greatest increase in the amount of money Jackie spent?

Ans: (b) Between _____ and _____

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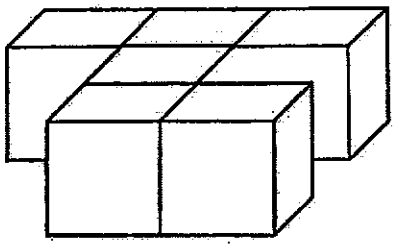
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26. Tom and Jerry took a 10-minute Mathematics quiz. They started and ended the quiz at the same time. Tom answered 2 questions more than Jerry for every minute. Together, they answered 58 questions. How many questions did Jerry answer?

Ans: _____

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27. The solid is made up of 2-cm cubes glued together as shown. It was painted in red on all sides.



(a) What is the area of one face of a cube?

Ans: _____ cm^2

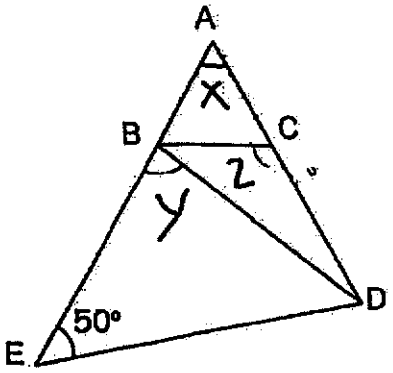
(b) How many faces were painted red?

Ans: _____

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28. Triangle ABC is an equilateral triangle. ABE and ACD are straight lines. BD = BE. Find the ratio of $\angle x$ to $\angle y$ to $\angle z$.



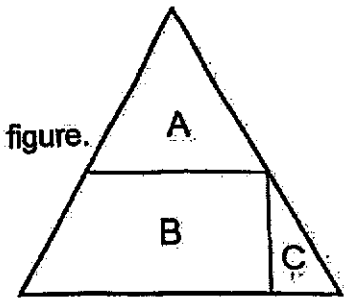
Ans: _____

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29. The area of A is 5 times the area of C.

The area of B is $1\frac{2}{5}$ times the area of A.

Express the area of A as a fraction of the whole figure.

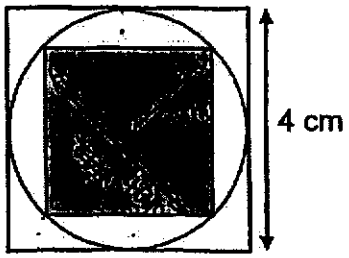


Ans: _____

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30. The figure is made up of a circle and 2 squares. The circle touches each of the 2 squares as shown. Find the shaded area.



Ans: _____ cm^2

End of Booklet B

End of Paper 1

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2022 PRIMARY 6 PRELIMINARY EXAMINATION

Name: _____ ( ) Date: 19 August 2022

Class: Primary 6 ( ) Time: 10.30 a.m. - 12.00 p.m.

Parent's Signature: _____

MATHEMATICS
PAPER 2

55

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Show your workings clearly as marks are awarded for correct working.
6. Use a dark blue pen or black ballpoint pen to write your answers in the space provided for each question.
7. Do not use correction tape or highlighters for your solutions.
8. You are allowed to use a calculator.

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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)

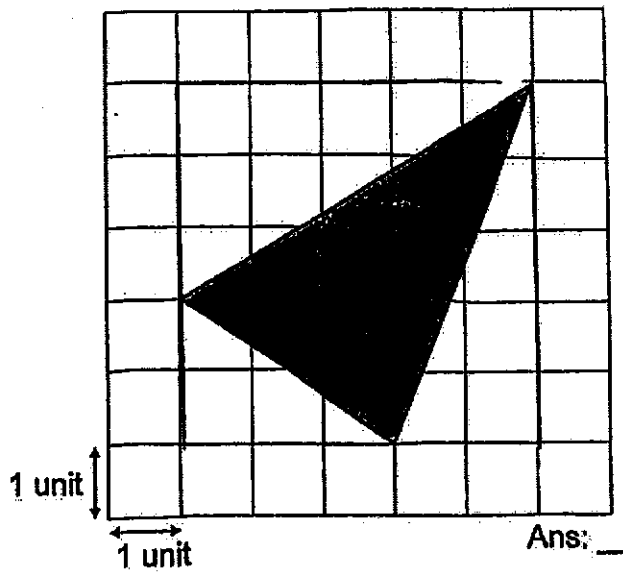
1. Mr Loh buys 10 kg of rice. He packs $\frac{2}{5}$ of the rice into smaller bags. The mass of each smaller bag of rice is $\frac{1}{4}$ kg. How many smaller bags of rice are there?

Ans: _____

2. The ratio of Amal's money to Bill's money is 5 : 3. Amal spends $\frac{1}{3}$ of her money. What is the new ratio of Bill's money to Amal's remaining money?

Ans: _____

3. Find the area of the shaded triangle.

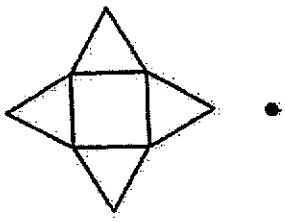


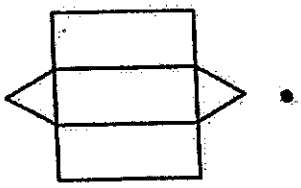
Ans: _____ unit^2

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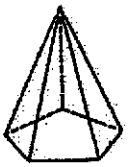
4. Match each net of solid to the correct solid formed.

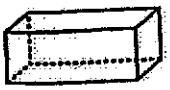












5. Chandra bought 7 stamps at n cents each. He paid with a five-dollar note. How much change did he receive?

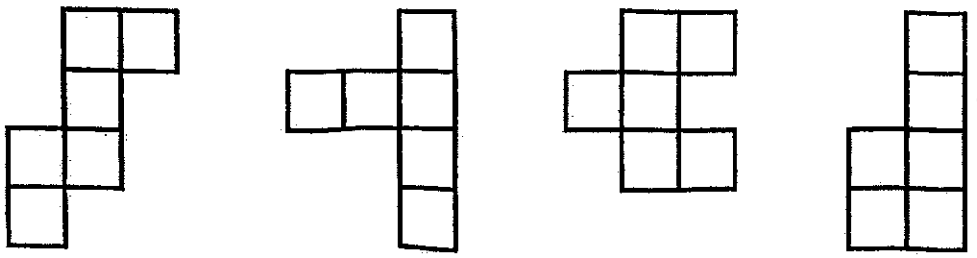
Ans: $_____

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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)

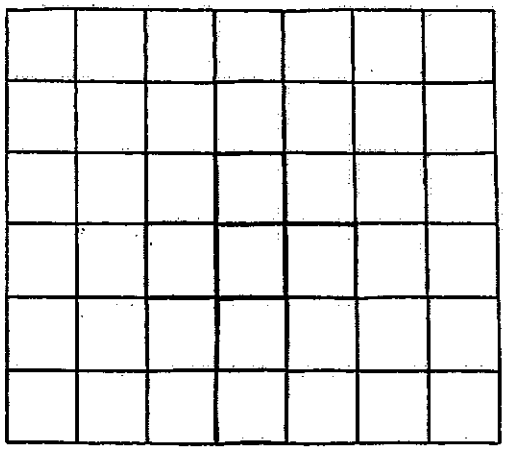
6. (a) Which one of the following shows a net of a cube?



Net A Net B Net C Net D

Ans: (a) _____ [1]

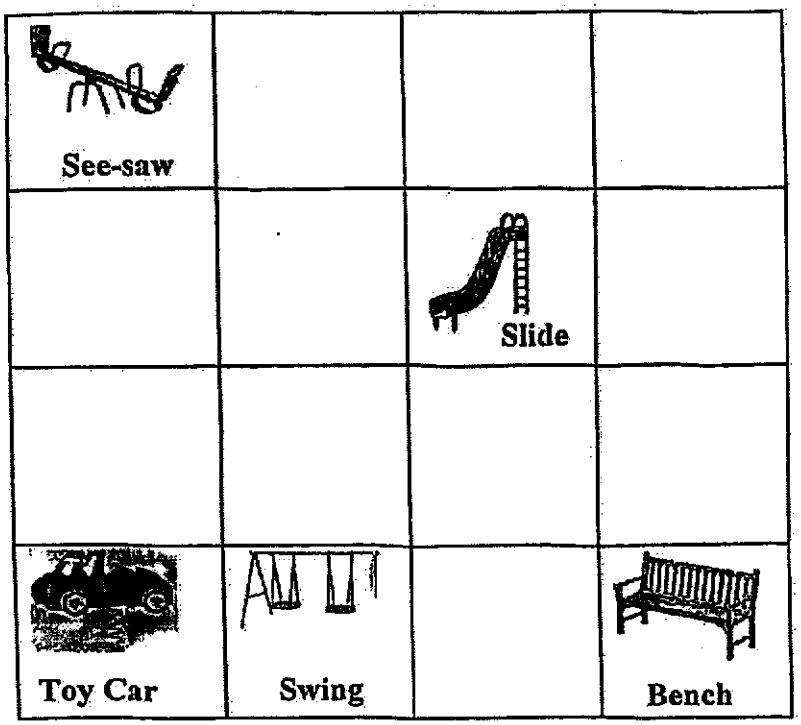
(b) Complete the following net of a cube such that it has one line of symmetry. [2]



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7. The square grid below shows the plan of a playground.



(a) In what direction is the bench from the see-saw?

Ans: (a) _____ [1]

(b) A tree is to be planted in the playground.
The location of the tree is to be north-west of the bench and south of the slide ~~and~~.
Put a tick ( ) in the square where the tree will be planted. [1]

(c) The toy car is south-west of the _____.

Ans: (c) _____ [1]

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8. Figure 1 shows a rectangular piece of paper.
The ratio of its length to its breadth is 4 : 3.
In Figure 2, the piece of paper is folded and cut along the dotted line.
Figure 3 shows the cut-out, C, and the remaining area of paper, R.

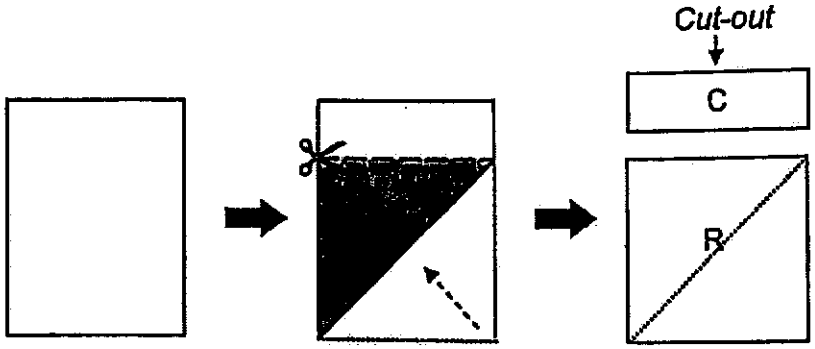


Figure 1 Figure 2 Figure 3

(a) What is the ratio of the length to the breadth of C?

Ans: (a) _____ [1]

(b) What percentage of the area of C is the area of R?

Ans: (b) _____ [2]

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9. Ella wrote her composition in 45 minutes. Fandi completed his composition 5 minutes faster than Ella. Ella wrote an average of 24 words per minute. Their compositions had a total of 2000 words. What was the average number of words Fandi wrote per minute?

Ans: _____ [3]

10. Glen was 40 m away from home. He and his brother, John, were 10 m apart when they started running home at the same time. Glen ran at an average speed of 5 m/s while John, ran at an average speed of 8 m/s. What was the distance between the brothers when one of them reached home first?

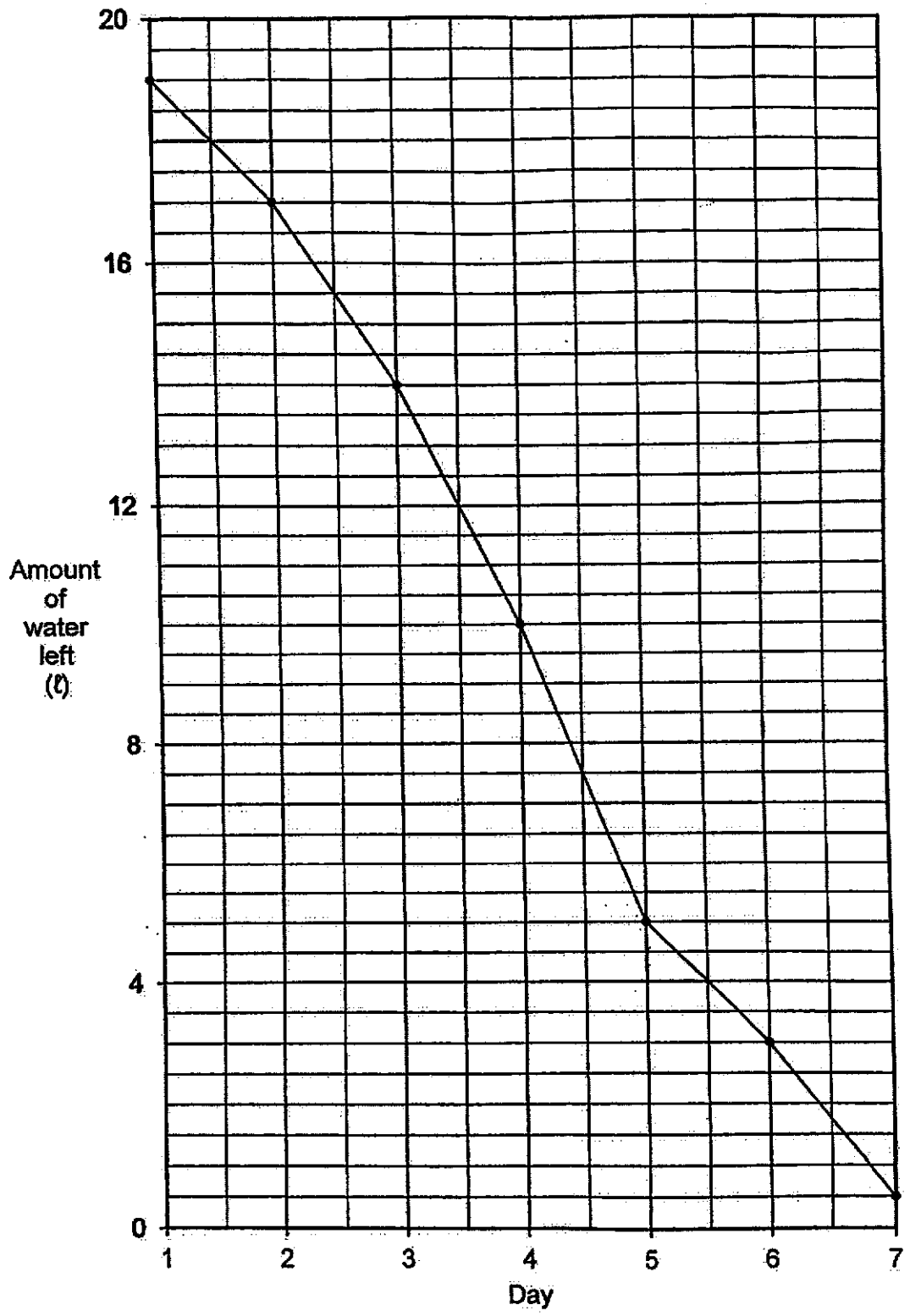


Ans: _____ [3]

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11. The line graph shows the amount of water left in a water dispenser at the start of each day from Day 1 to 7.



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(11a) How much water is left in the container at the end of Day 6?

Ans: (a) _____ [1]

(11b) The amount of water dispensed for two days was the same. Which were the two days?

Ans: (b) Day ___ and Day ___ [1]

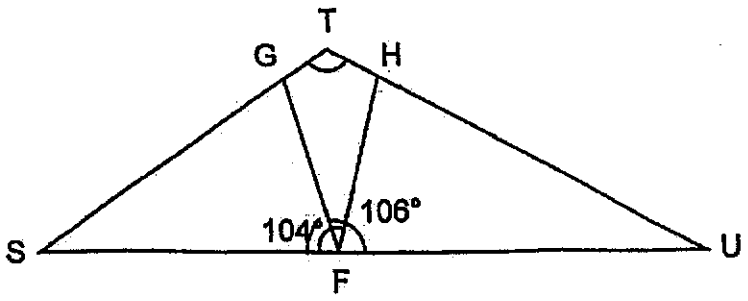
(11c) What was the average amount of water dispensed from the start of Day 1 to the end of Day 5?

Ans: (c) _____ [2]

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12a. In the figure, STU is a triangle. F, G and H are points on the triangle. SF = SG and UF = UH. ∠HFS = 104° and ∠UFG = 106°. Find ∠STU.

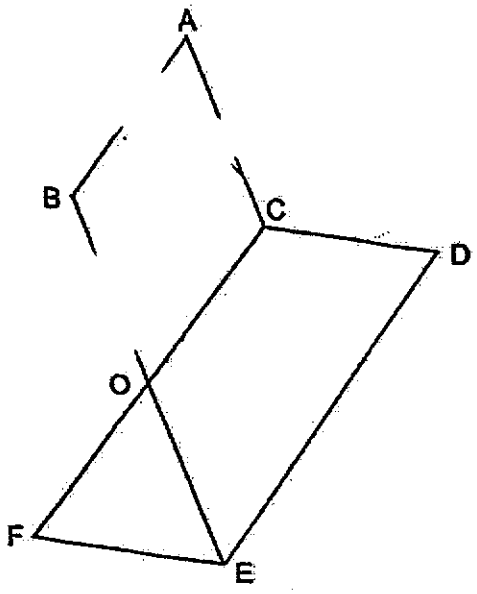


Ans: _____ [2]

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12b. In the figure, ACOB is a rhombus and CDEF is a parallelogram.



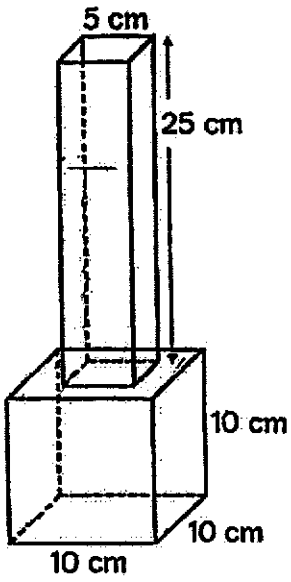
Each of the statements below is either true, false or not possible to tell from the information given. For each statement, put a tick ( ) to indicate your answer.

Statement	True	False	Not possible to tell	
i) ∠ABO is twice of ∠OFE				[1]
ii) ∠ACD is equal to ∠BOF				[1]

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13. The figure shows an empty vase that is made from 2 containers. The bottom container is a cube of side 10 cm. The top container is a cuboid with a square base of 5 cm and a height of 25 cm. 1465 cm^3 of water is poured into the empty vase. Find the height of the water level from the base of the vase.



Ans: _____ [5]

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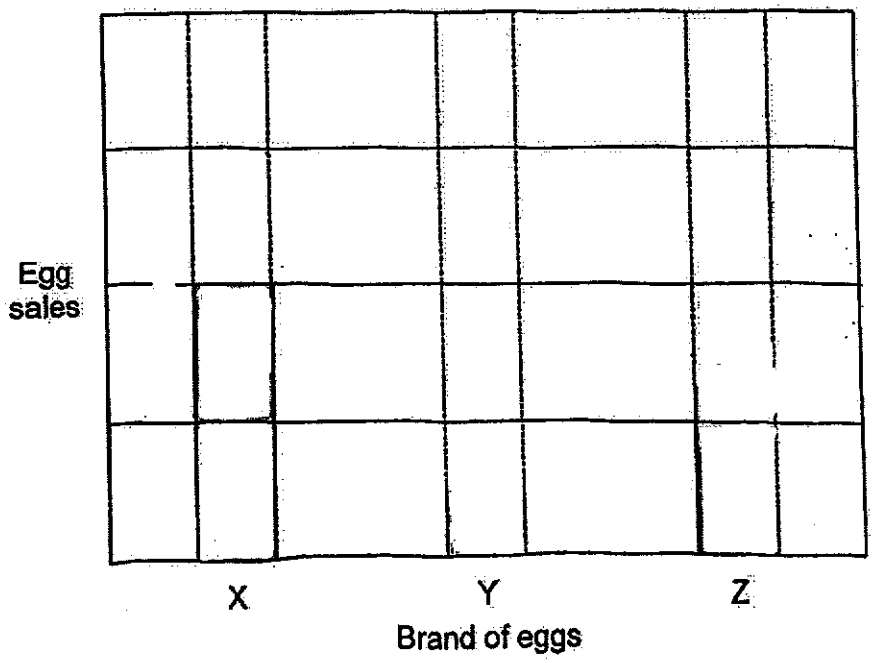
14. The table shows some information on three brands of eggs.

Brand	Cost per carton of eggs	Number of cartons of eggs sold in a week
X	$5.60	240
Y	$3.20	315
Z	$2.80	120

(a) How much money was collected from the sale of the 3 brands of eggs in a week?

Ans: (a) _____ [2]

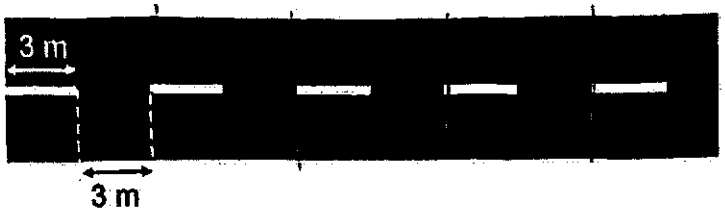
(b) Complete the bar graph to show the proportion of the amount of money collected for each brand of eggs in a week. Shade the bars. [2]



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15. The figure shows the start of an 11-km road with white lane markings. One fully painted white lane marking is 3 m long. It is as long as the distance between two fully painted white lane markings.



(a) Find the maximum number of fully painted white lane markings.

Ans: (a) _____ [2]

(b) What is the length of the last white lane marking that is not fully painted?

Ans: (b) _____ [2]

(c) What fraction of a fully painted white lane marking is the last white lane marking?

Ans: (c) _____ [1]

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16. A baker made 225 fewer cheese buns than kaya buns.
He sold half of the cheese buns and $\frac{7}{9}$ of the kaya buns.
There were 128 buns left in the end.
How many buns did he sell?

Ans: _____ [4]

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17. Two identical wheels with centres P and Q are 264 cm apart.
Figure 1 shows the wheels turn along straight line CD towards each other.

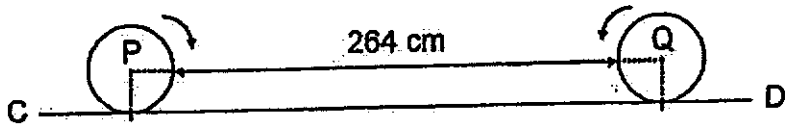


Figure 1

After each wheel makes 6 complete turns, they touch each other as shown in Figure 2.



Figure 2

(a) What is the radius of each wheel?

Ans: (a) _____ [2]

(b) Find the perimeter of the shaded part in Figure 2. (Take $\pi = \frac{22}{7}$)

Ans: (b) _____ [2]

End of Paper 2

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ANSWER KEY

YEAR: 2022

LEVEL: P6

SCHOOL: TAO NAN SCHOOL

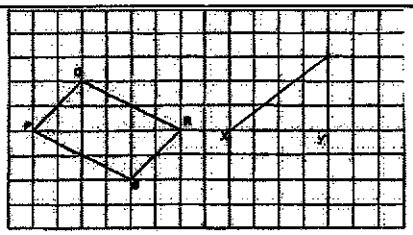
SUBJECT: MATHEMATICS

TERM: PRELIMINARY

BOOKLET A (PAPER 1)

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

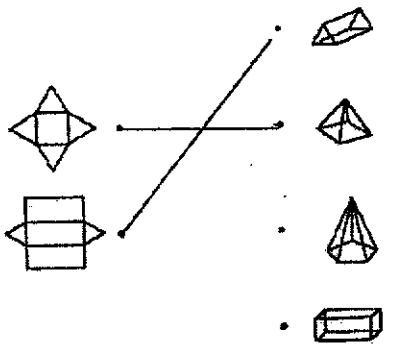
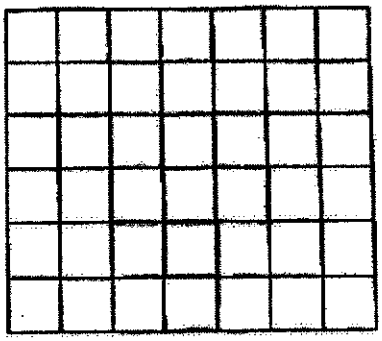
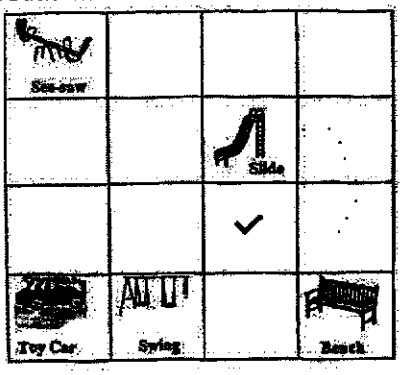
BOOKLET B (PAPER 1)

Q16	7.12	Q17	108
Q18	20%	Q19	40
Q20	D	Q21	a) 21 b) $2\frac{4}{9}$
Q22		Q23	a) $\angle DCB$=180°-65°=115° b) $\angle BCE$=180°-115°=65° $\angle CBE$=180°-65°-65°=50°
Q24	99 & 81	Q25	a) 250 b) March and April
Q26	19	Q27	a) 4 cm² b) 26
Q28	3:6:4	Q29	$\frac{5}{13}$
Q30	8 cm²		

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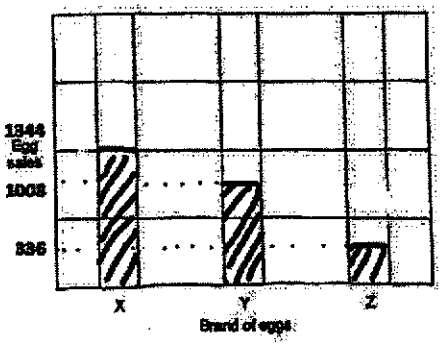
PAPER 2

<table>
<tr><td>Q1</td><td>$10 \times \frac{2}{5} = 4$
$4 \div \frac{1}{4} = 16$</td><td>Q2</td><td>9:10</td></tr>
<tr><td>Q3</td><td>$\Delta A = \frac{1}{2} \times 3 \times 5 = 7.5$
$\Delta B = \frac{1}{2} \times 2 \times 5 = 5$
$\Delta C = \frac{1}{2} \times 2 \times 3 = 3$
$5 \times 5 = 25$
$\Delta D = 25-7.5-5-3 = 9.5$</td><td>Q4</td><td></td></tr>
<tr><td>Q5</td><td>$7 \times n = 7n¢$
$\$5 - 7n¢ = \$5 - \$\frac{7n}{100} = \$\left(5 - \frac{7n}{100}\right)$</td><td>Q6</td><td>a) A
b)</td></tr>
<tr><td>Q7</td><td>a) South-East


b)
c) Slide</td><td>Q8</td><td>a) 3:1
b) $3 \times 1 = 3$
$3 \times 3 = 9$
$\frac{9}{3} \times 100\% = 300\%$</td></tr>
<tr><td>Q9</td><td>$45 - 5 = 40$
$24 \times 45 = 1080$
$2000 - 1080 = 920$
$920 \div 40 = 23$</td><td>Q10</td><td>$40 \div 5 = 8$
$10 + 40 = 50$
$50 \div 8 = 6\frac{1}{4}$
$5 \times 6\frac{1}{4} = 31\frac{1}{4}$
$40 - 31\frac{1}{4} = 8\frac{3}{4}$ m</td></tr>
</table>

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<table>
<tr>
<td>Q11</td>
<td>a) 0.5ℓ
b) Day 1 and Day 5
c) 3.2 ℓ</td>
<td>Q12</td>
<td>a) $\angle HFU = 180°-104°=76°$
$\angle HUF = 180°-76°-76° = 28°$
$\angle GFS = 180°-106°=74°$
$\angle GSF = 180°-74°-74°=32°$
$\angle STU = 180°-28°-32°=120°$
b) i) True
ii) Not possible to tell</td>
</tr>
<tr>
<td>Q13</td>
<td>10 x 10 x 10 = 1000
1465 – 1000 = 465
5 x 5 = 25
465 ÷ 25 = 18.6
18.6 + 10 = 28.6 cm</td>
<td>Q14</td>
<td>a) 5.60 x 240 = 1344 (x)
3.20 x 315 = 1008 (y)
2.80 x 120 = 336
1344 + 1008 + 336 = $2688
b)

</td>
</tr>
<tr>
<td>Q15</td>
<td>a) 11km = 10000m
2 x 3 = 6
11000 ÷ 6 = 1833 R 2
1833 x 1 = 1833
b) 11000 ÷ 6 = 1833 R 2
2m
c) $\frac{2}{3}$</td>
<td>Q16</td>
<td>
<table>
<tr><td></td><td>Cheese</td><td>Kaya</td></tr>
<tr><td>Before</td><td>18u</td><td>18u + 225</td></tr>
<tr><td>Change</td><td>-9u</td><td>-14u - 175</td></tr>
<tr><td>After</td><td>9u</td><td>4u + 50</td></tr>
</table>
2 x 9 = 18
9u + 4u + 50 = 128
13u = 78
u = 78÷ 13 = 6
9u+4u+175=23u+175=23x6+175=313</td>
</tr>
<tr>
<td>Q17</td>
<td>a) 2 x 6 = 12
264 ÷ 12 = 22
$\frac{22}{7}$ x D = 22
D = 7cm
R = 7÷2= 3.5cm
b) D = 7cm
$\frac{1}{2}$ x $\frac{22}{7}$ x 7 = 11
11 + 7 = 18cm</td>
<td></td>
<td></td>
</tr>
</table>

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