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AI TONG SCHOOL
2021
PRELIMINARY EXAMINATION
PRIMARY 6

MATHEMATICS
PAPER 1
(Booklet A)

DURATION (Booklets A and B) : 1 h

DATE : 20 AUGUST 2021

INSTRUCTIONS

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.

The use of calculators is **NOT** allowed.

Name: _____ ()

Class: Primary 6 _____

Marks:

Paper 1 (Booklet A)	20
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Paper 1
Booklet A

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 What is two million six hundred and four thousand in numerals?

- (1) 2 004 600
- (2) 2 064 000
- (3) 2 600 400
- (4) 2 604 000

2 What is the value of $78 + (19 - 17) \times 3 - 2 + 9$?

- (1) 20
- (2) 2
- (3) 106
- (4) 124

3 Which of the following is the likely capacity of a water bottle?

- (1) 6.5 ml
- (2) 65 ml
- (3) 650 ml
- (4) 6500 ml



- 4 A box contained a total of w red and yellow beads. There were 24 more yellow beads than red beads. How many red beads were there in the box?

(1) $\left(\frac{w}{2} - 24\right)$

(2) $\left(\frac{w}{2} + 24\right)$

(3) $\left(\frac{w + 24}{2}\right)$

(4) $\left(\frac{w - 24}{2}\right)$

- 5 Four boys shared 3 similar pizzas equally. What fraction of a pizza did each boy get?

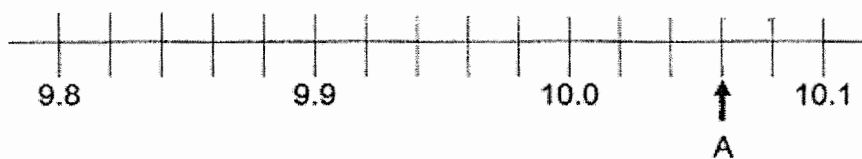
(1) $\frac{4}{3}$

(2) $\frac{3}{4}$

(3) $\frac{1}{3}$

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

- 6 In the number line, which number is represented by A?



(1) 10.03

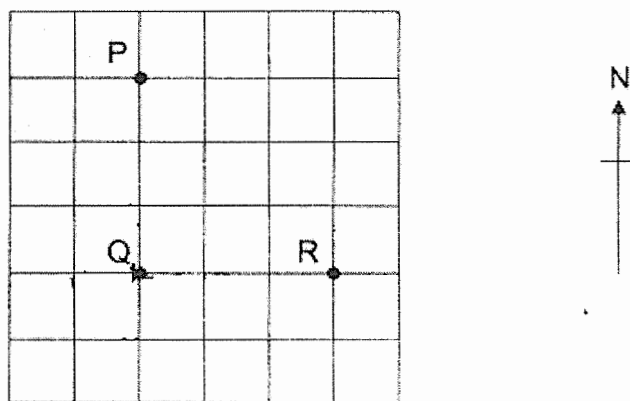
(2) 10.06

(3) 10.3

(4) 10.6

- 7 The average of three numbers is 17. When a fourth number is added, the average of the four numbers becomes 21. What is the fourth number?
- (1) 33
 - (2) 28
 - (3) 51
 - (4) 84

- 8 The diagram shows three points P, Q and R on a square grid.



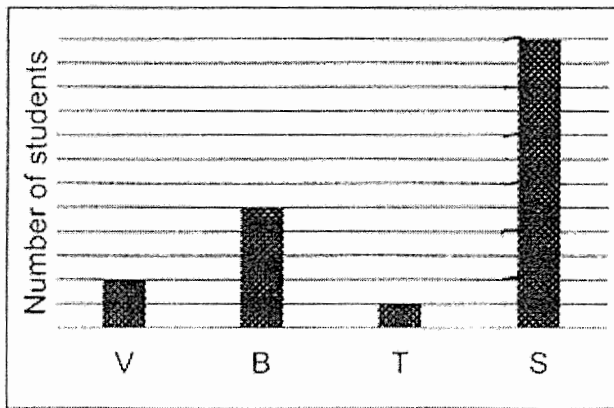
In which direction is R from Q?

- (1) East
 - (2) West
 - (3) South-East
 - (4) South-West
- 9 A bank gives 0.5% interest per year. Mrs Ang deposits \$3000 in the bank. How much interest will she receive at the end of one year?
- (1) \$150
 - (2) \$15
 - (3) \$1.50
 - (4) \$0.15

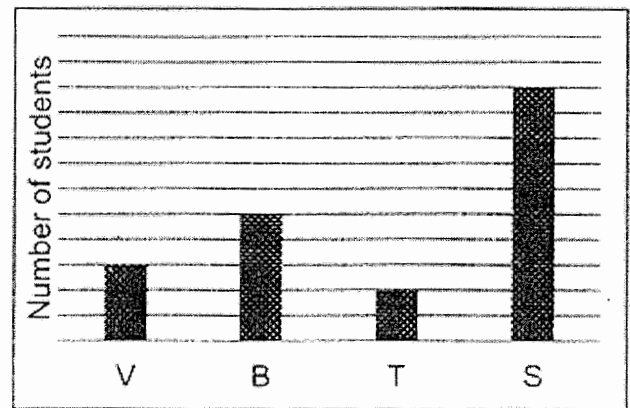
- 10 A group of students were surveyed on their favourite sport. The table below shows the number of students who chose each sport as their favourite sport. Each student could only choose one sport.

Favourite Sport	Number of students
Volleyball (V)	4
Badminton (B)	10
Tennis (T)	2
Soccer (S)	24

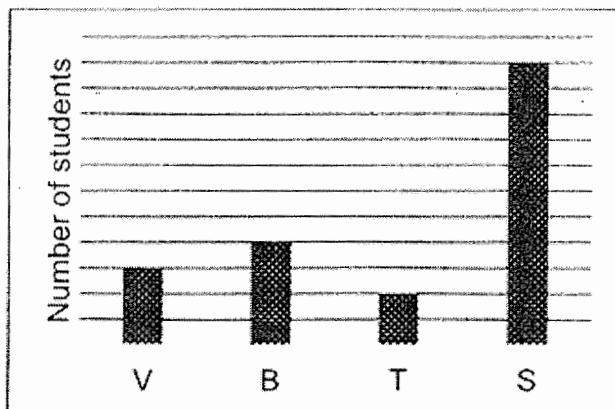
Which of the graphs shows the correct representation of the students' favourite sport?



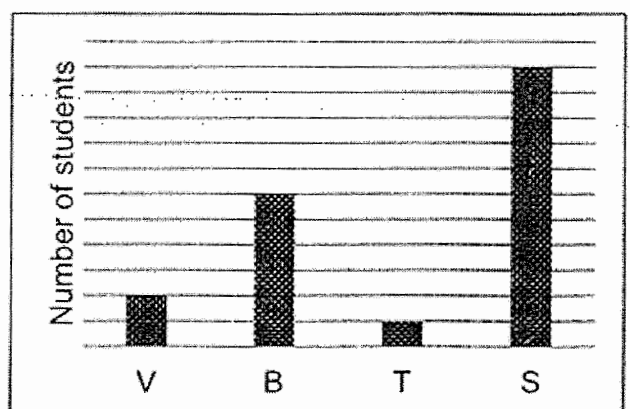
(1)



(2)

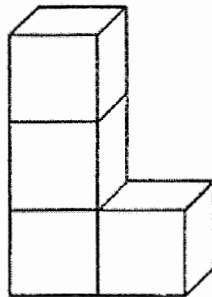


(3)



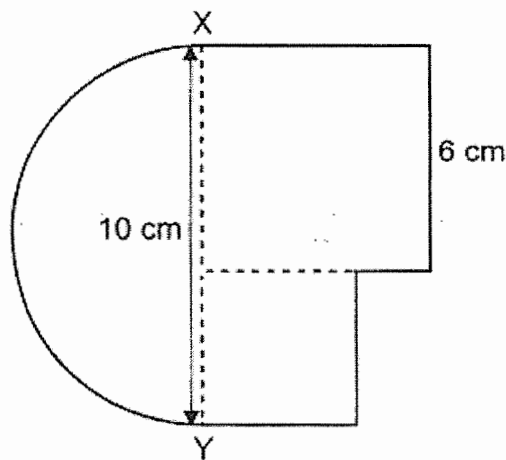
(4)

- 11 The solid below was made up of four cubes joined together. Raja painted the whole solid, including the base. Then, he separated the four cubes. What was the total number of the faces that were painted?



- (1) 18
 (2) 19
 (3) 20
 (4) 21

- 12 The figure below is made up of a semicircle and 2 squares. The length of XY is 10 cm and the length of the larger square is 6 cm. Find the perimeter of the figure. Give your answer in terms of π .

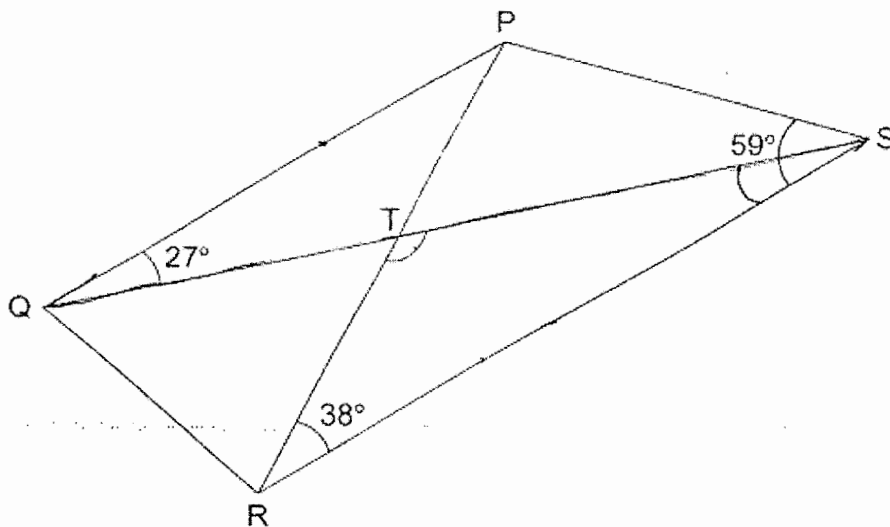


- (1) $(5\pi + 20)$ cm
 (2) $(5\pi + 22)$ cm
 (3) $(10\pi + 20)$ cm
 (4) $(10\pi + 22)$ cm

- 13 Yi Yang had 3 empty containers X, Y and Z. He poured an equal amount of water into each of them. After that, $\frac{1}{3}$ of X was filled with water, $\frac{1}{4}$ of Y was filled with water and $\frac{2}{5}$ of Z was filled with water. What was the ratio of the capacity of container X to container Y to container Z?

- (1) 1 : 1 : 2
 (2) 3 : 4 : 5
 (3) 4 : 5 : 7
 (4) 6 : 8 : 5

- 14 In the diagram, PQRS is a trapezium. $PQ \parallel SR$. PR and QS are straight lines. $\angle PQS = 27^\circ$, $\angle PSR = 59^\circ$ and $\angle PRS = 38^\circ$. Find $\angle STR$.



- (1) 104°
 (2) 115°
 (3) 121°
 (4) 126°

15 Sandra took three tests. She scored 60 marks in the first test. Her score increased by 25% in the second test. In her third test, her score reduced by 20% from the second test. How many marks did she score in total for the three tests?

- (1) 213
- (2) 210
- (3) 195
- (4) 190

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1. The first part of the document is a list of names and addresses of the members of the committee.



AI TONG SCHOOL

2021

**PRELIMINARY EXAMINATION
PRIMARY 6**

**MATHEMATICS
PAPER 1
(Booklet B)**

DURATION (Booklets A and B) : 1 h

DATE : 20 AUGUST 2021

INSTRUCTIONS

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

Follow all instructions carefully.

Answer all questions.

Write your answer in this booklet.

The use of calculators is **NOT** allowed.

Name: _____ ()

Class: Primary 6 _____

Marks:

Paper 1 (Booklet B)	25
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Paper 1
Booklet B

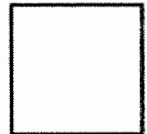
Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided.
For questions which require units, give your answers in the units stated.

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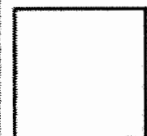
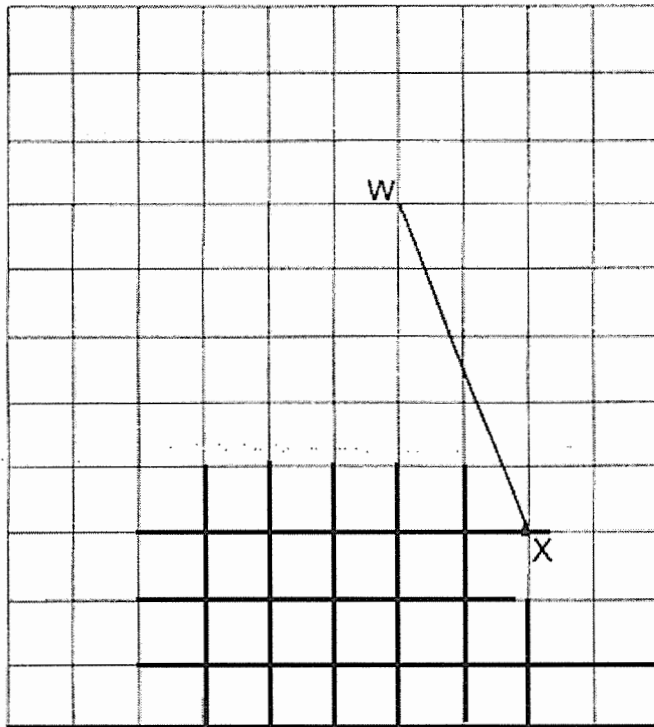
(5 marks)

16 Find the value of $45.1 \div 12.28$.

Ans: _____



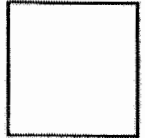
17 In the square grid, line WX is drawn. Lines WX and XY are of the same length. XY is perpendicular to WX. Draw and label XY in the square grid.



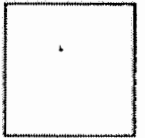
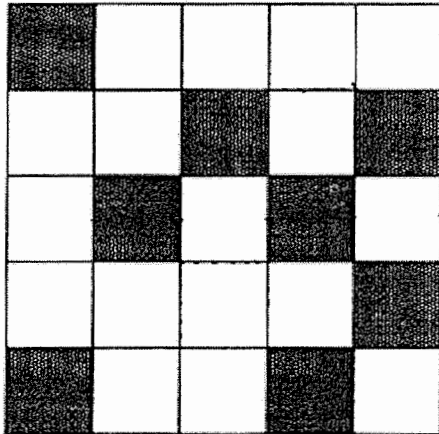
18 Find the value of $6 + 3y + 5 - y$ when $y = 7$.

Do not write in this space

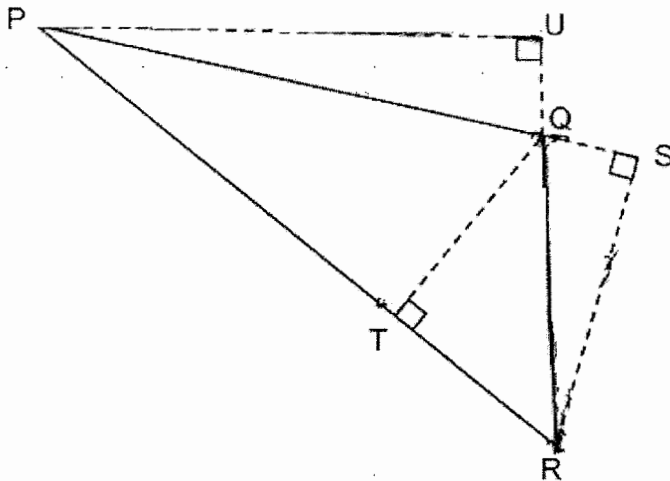
Ans: _____



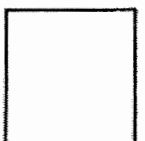
19 The figure below is made up of identical squares. Shade two more squares so that the figure has a line of symmetry.



20 The figure below is made up of straight lines. QR is the base of Triangle PQR. Name the height of Triangle PQR.



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. (20 marks)

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21 The table shows the cost of renting a bicycle.

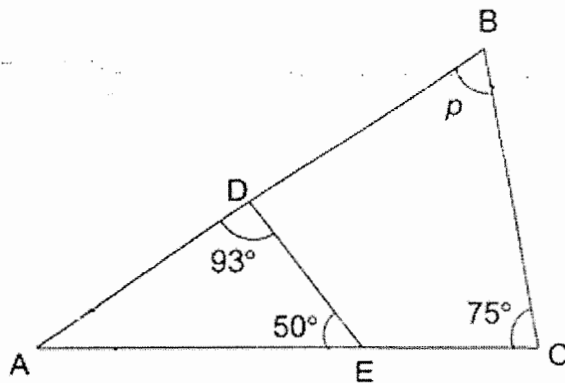
Bicycles For Rent	
First hour	\$7
Every additional $\frac{1}{2}$ hour	\$4



Joseph has \$20. What is the longest duration he can rent the bicycle for?

Ans: _____ h

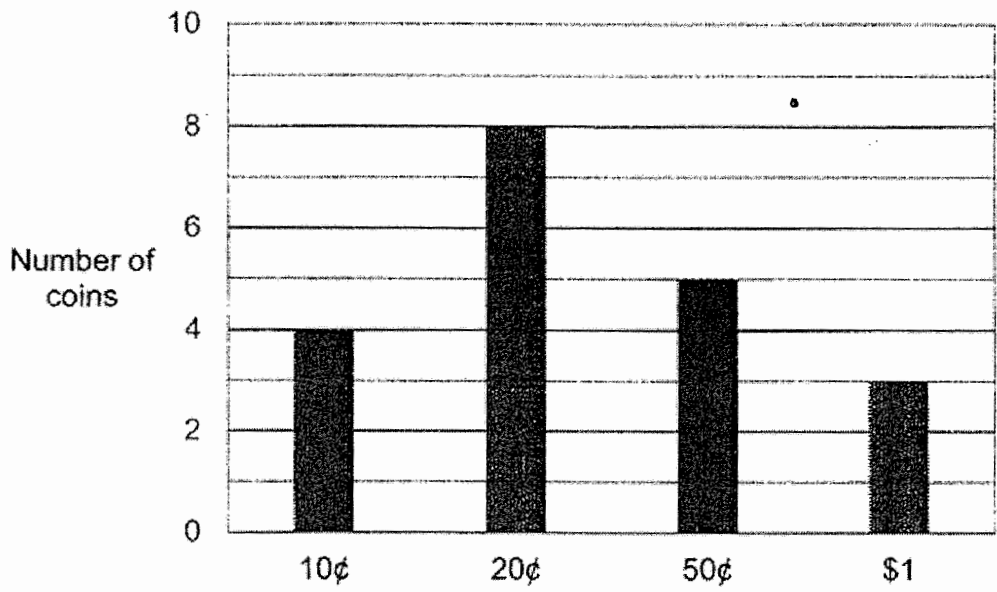
22 In the figure, ABC and ADE are triangles. Find $\angle p$.



Ans: _____

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23 The bar graph shows the number of coins Jimmy saved.



- (a) How many coins did Jimmy save?
- (b) What fraction of the coins were 50¢ coins?

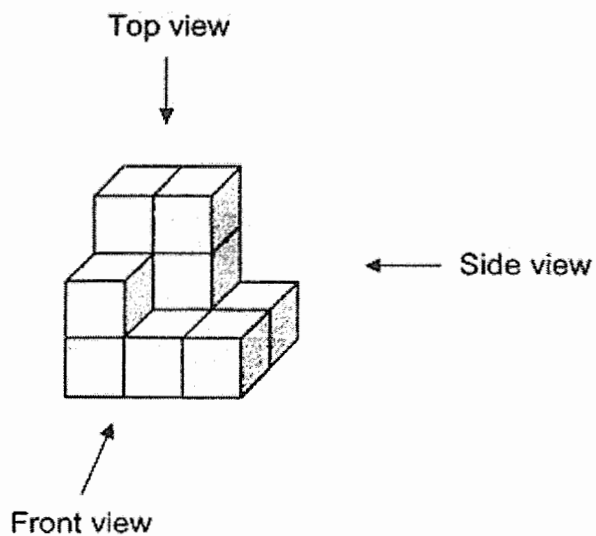
Ans: (a) _____
(b) _____

24 The average of 5 consecutive odd numbers is 27.
What is the smallest number?

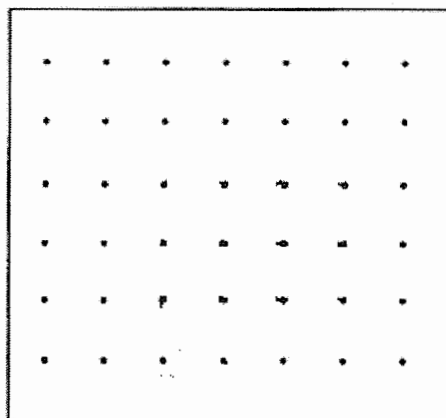
Ans: _____

25 The solid below is made up of 11 unit cubes.

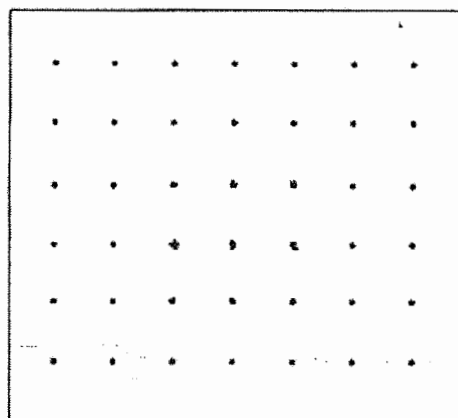
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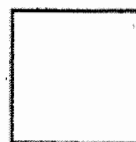
Draw the top view and side view of the solid on the grids below.



Top View

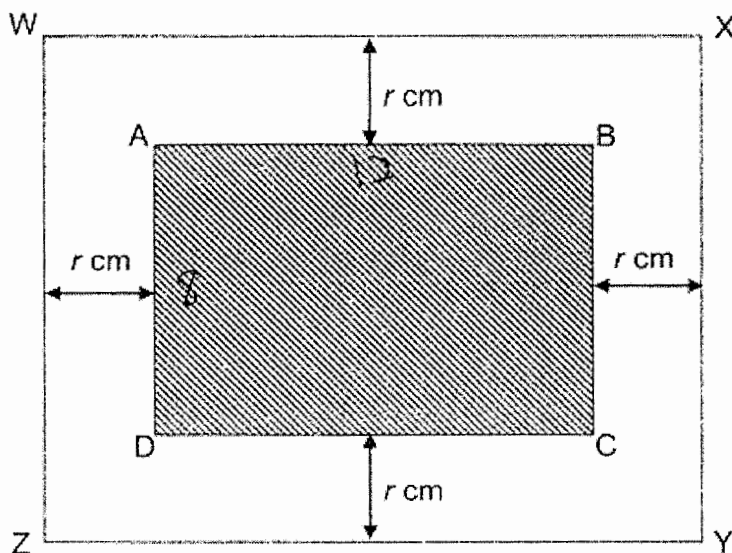


Side View



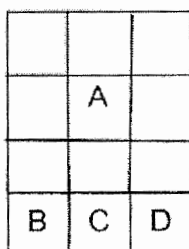
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- 26 A rectangular piece of paper ABCD is pasted on a rectangular cardboard WXYZ, leaving a border of width r cm around it. $AB = 12$ cm and $AD = 8$ cm. The perimeter of the cardboard WXYZ is 64 cm. Find the value of r .



Ans: _____

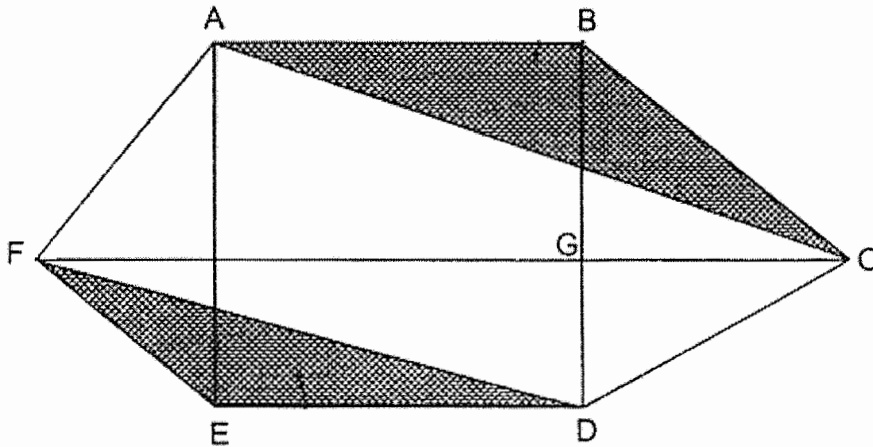
- 27 The figure is made up of four squares A, B, C and D. Find the ratio of the area of Square A to the total area of the figure. Express your answer in the simplest form.



Ans: _____

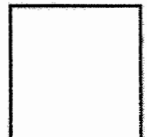
Do not write in this space

- 28 In the figure below, ABDE is a square. ABC, BCD, DEF and AEF are triangles. Line FGC is a straight line parallel to line AB.
 The length of GD is $\frac{2}{5}$ the length of BD.



Each statement below is either true, false or not possible to tell from the information given. For each statement, put a tick (✓) in the correct column.

	Statement	True	False	Not Possible To Tell
(a)	The total area of the shaded triangles ABC and DEF is equal to the area of square ABDE.			
(b)	The ratio of the area of Triangle DEF to the area of Triangle ABC is 2 : 3.			



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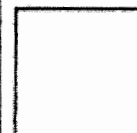
- 29 A group of students participated in a paper crane folding competition. The table below shows the number of paper cranes each student folded in the first round of the competition.

Number of paper cranes folded	1	2	3	4	5	6
Number of students	4	5	11	9	7	2

- (a) How many students folded more than 3 paper cranes?
- (b) Students who did not fold enough paper cranes in the first round could not participate in the second round. 9 students could not participate in the second round. What was the least number of paper cranes a student had to fold in order to participate in the second round?

Ans: (a) _____

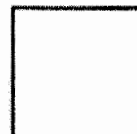
(b) _____



- 30 The first 15 numbers of a number pattern are given below. The pattern has 633 numbers. How many "0" are there in the pattern?

5,	4,	0,	0,	2,	5,	4,	0,	0,	2,	5,	4,	0,	0,	2,	...
↑														↑	
1 st														15 th	

Ans: _____



End of Paper 1



AI TONG SCHOOL

2021

PRELIMINARY EXAMINATION PRIMARY 6

MATHEMATICS PAPER 2

DURATION : 1 h 30 min

DATE : 20 AUGUST 2021

INSTRUCTIONS

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.

The use of an approved calculator is allowed.

Name: _____ ()

Class: Primary 6 _____

Marks :

Parent's Signature :	_____
Date :	_____

Paper 1	45
Paper 2	55
Total	100

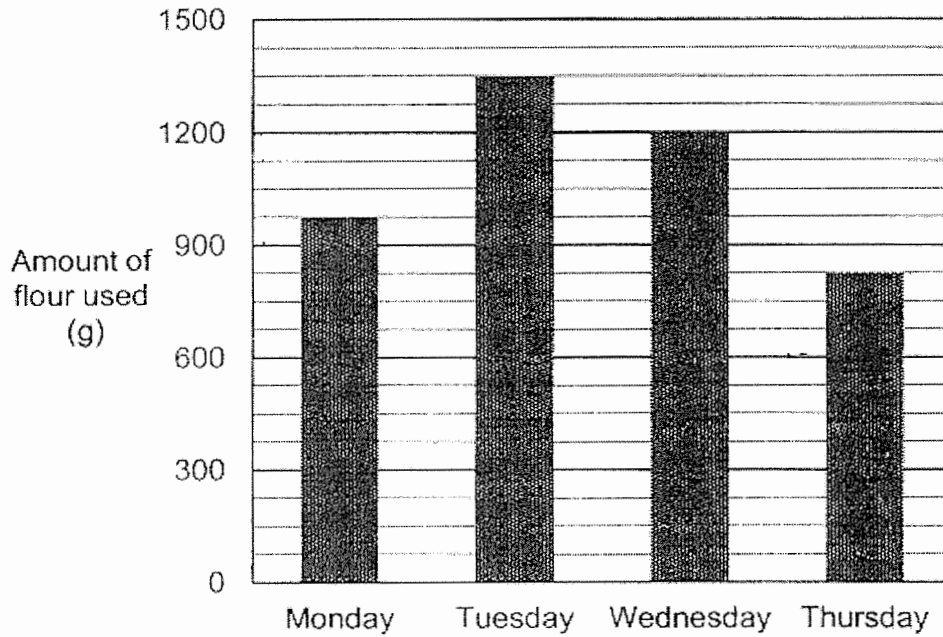
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Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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- 1 The bar graph below represents the amount of flour Mrs Tang used from Monday to Thursday.

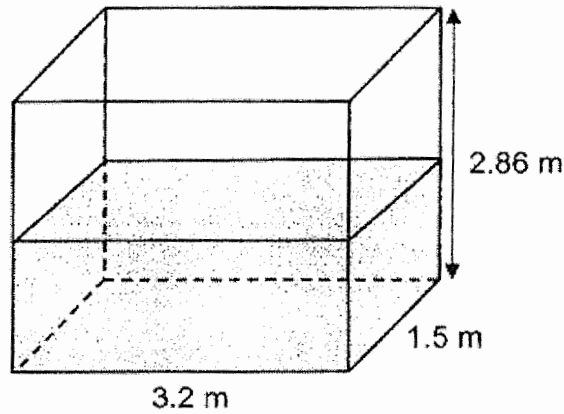


What is the average amount of flour Mrs Tang used per day?

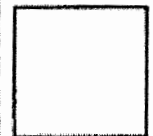
Ans: _____ g

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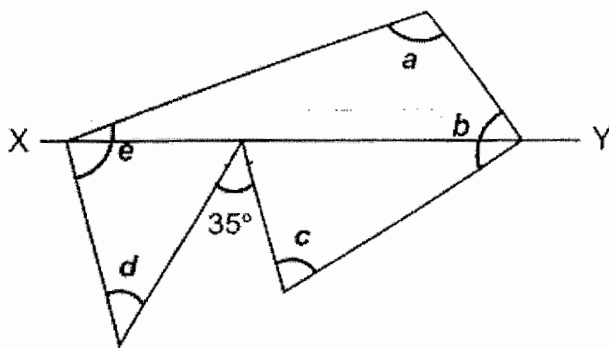
- 2 James filled half a rectangular tank measuring 3.2 m by 1.5 m by 2.86 m with water. Find the volume of water in the tank.
Give your answer correct to the nearest cubic metre.



Ans: _____ m³



- 3 In the figure, XY is a straight line.
Find the sum of $\angle a$, $\angle b$, $\angle c$, $\angle d$ and $\angle e$.

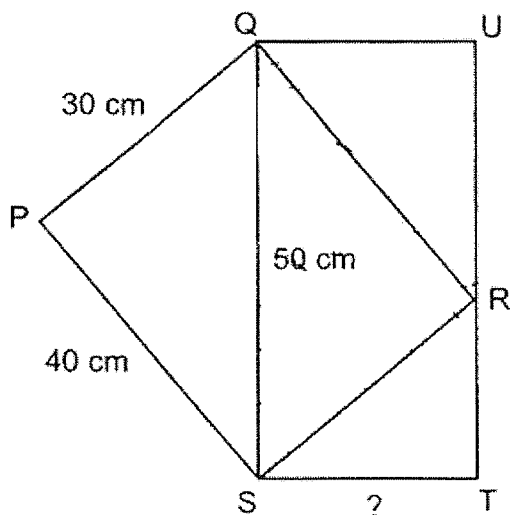


Ans: _____ °

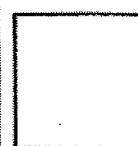


- 4 In the figure below, \overline{PQRS} and \overline{QUTS} are rectangles.
 $PQ = 30$ cm, $PS = 40$ cm and $QS = 50$ cm.
Find the length of ST .

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in this space



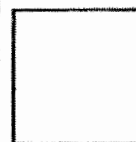
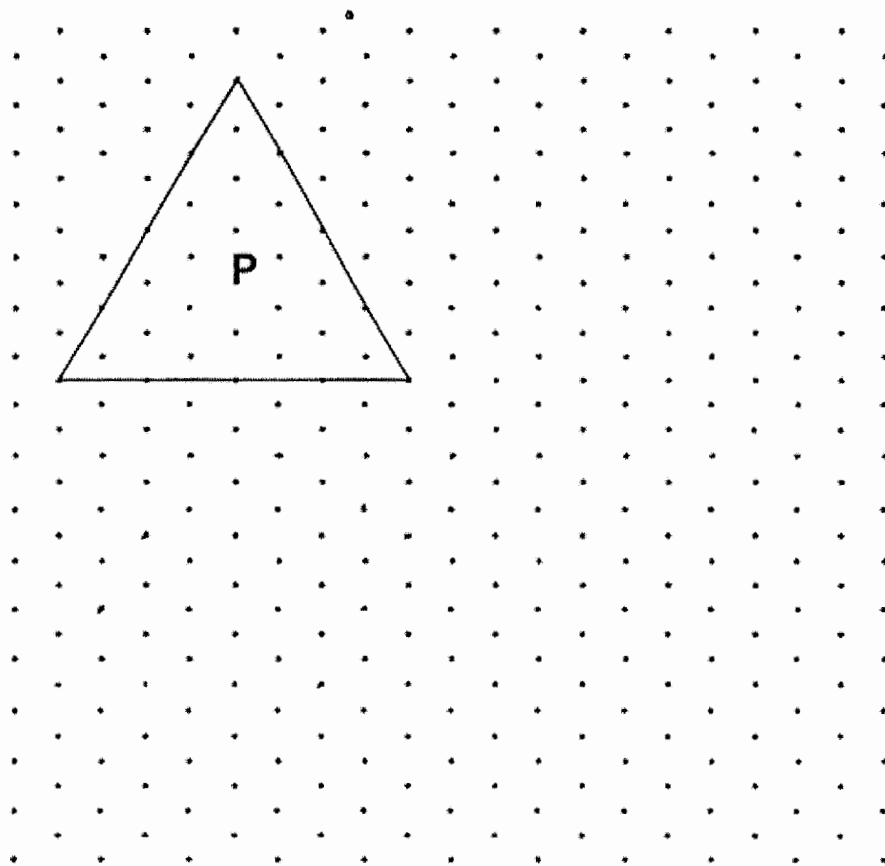
Ans: _____ cm



5 The figure shows an equilateral triangle, P.

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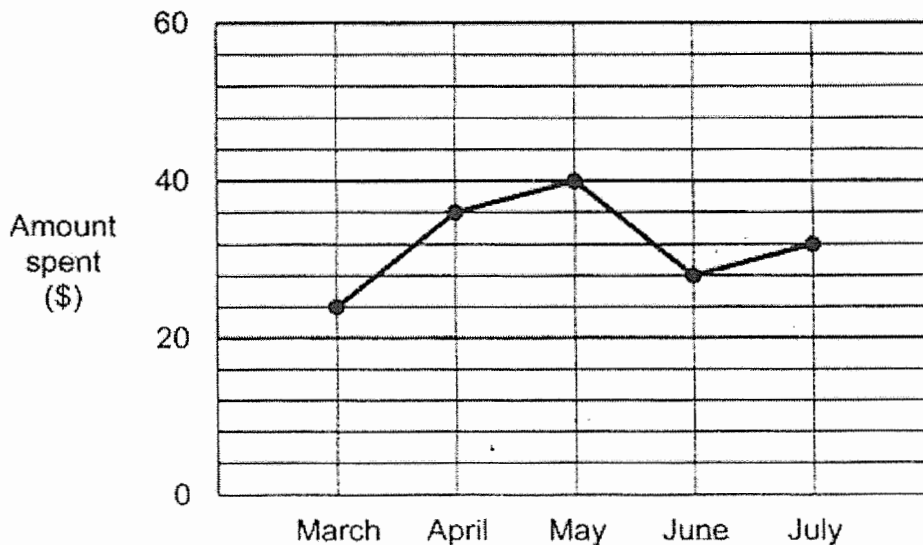
By joining dots on the grid with straight lines, draw a rhombus with the same perimeter as P.



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 bracket [] at the end of each question or part-question. For questions which require units, give your answers in the units stated. (45 marks)

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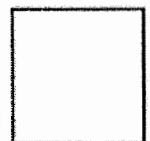
- 6 Kumar receives the same amount of pocket money from his father every month from March to July. He spent some of his pocket money and saved the rest. The line graph below shows the amount of pocket money Kumar spent from March to July.



- (a) Kumar saved \$14 in April. How much pocket money does he receive from his father each month?
- (b) What is the percentage increase in the amount of money Kumar saved from May to June?

Ans: (a) _____ [1]

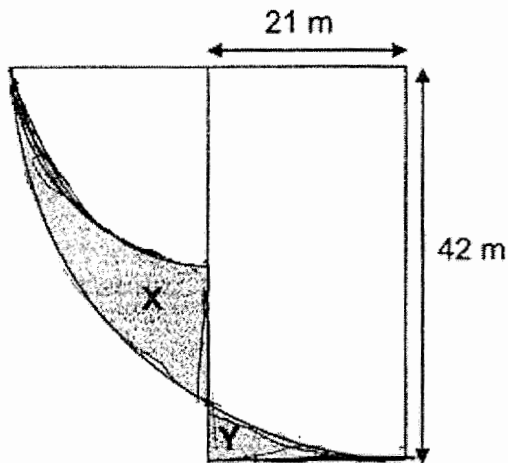
(b) _____ [2]



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- 7 The figure is made up of two quarter circles and a rectangle overlapping one another. The radius of the larger quarter circle is the same as the length of the rectangle. The length of the rectangle is 42 m and its breadth is 21 m. Find the sum of the perimeters of the two shaded parts X and Y.

Take $\pi = \frac{22}{7}$.

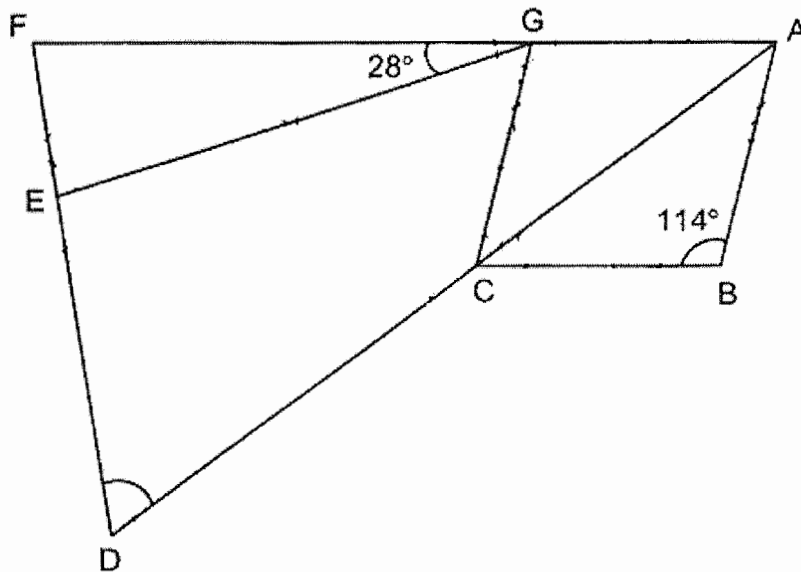


Ans: _____ [3]



- 8 In the figure below, $ABCG$ is a rhombus. EFG and DAF are triangles. $GE = GF$. $\angle EGF = 28^\circ$ and $\angle ABC = 114^\circ$. Find $\angle CDE$.

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in this space

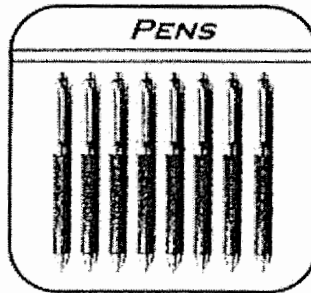
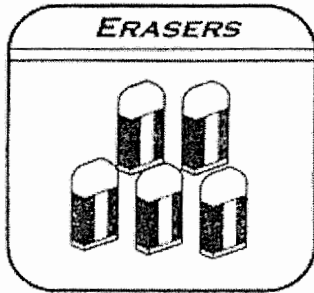


Ans: _____ [3]

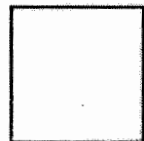


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- 9 Bookshop A and Bookshop B sold erasers in packs of 5 and pens in packs of 8. The two bookshops sold a total of 1596 erasers and pens. Bookshop A sold twice as many packs of erasers as pens while Bookshop B sold twice as many packs of pens as erasers. The number of pens sold in both bookshops was the same. How many packs of erasers did both bookshops sell altogether?

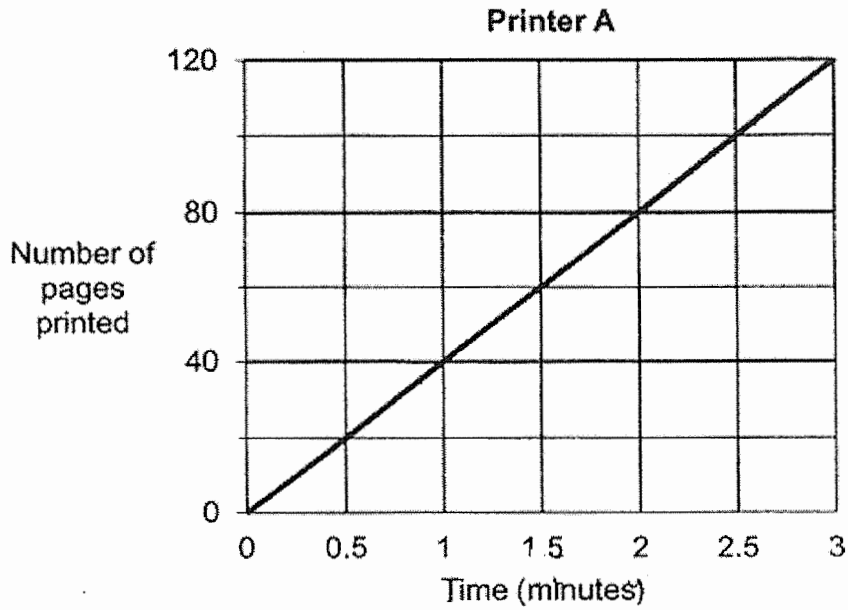


Ans: _____ [3]



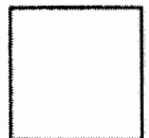
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- 10 Mr Tan used two different printers for a printing job. The graph below shows the number of pages printed by Printer A in a given period of time.



Mr Tan started printing on both printers at 10 30. He turned off Printer B at 10 45. Printer A was turned off at 10 48. He printed 1890 pages altogether. Printer B printed an equal number of pages every minute. How many pages did Printer B print in one minute?

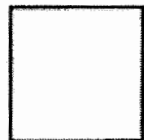
Ans: _____ [3]



- 11 Ben earned \$2.50 for delivering a small parcel and earned more for delivering a big parcel. He delivered 3 times as many small parcels as big parcels and earned a total of \$156.80. He earned \$53.20 less for delivering all the big parcels than all the small parcels. How many big parcels did Ben deliver?

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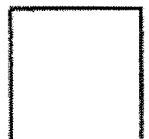
Ans: _____ [3]



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- 12 Mrs Tan bought $\frac{4}{5}$ as many pears as apples and $\frac{2}{5}$ as many oranges as apples. She paid a total of \$150 for all the fruits. The ratio of the amount of money she spent on the pears to the amount she spent on the apples was 2 : 3. The ratio of the amount of money she spent on the pears to the amount of money she spent on the oranges was 1 : 5. Each apple cost \$0.50. Find the total number of fruits Mrs Tan bought.

Ans: _____ [4]



- 13 Figure 1 shows two identical large semicircles and two identical small semicircles overlapping within a square tile. The length of the square tile is 40 cm. The diameter of the small semicircle is 20 cm.

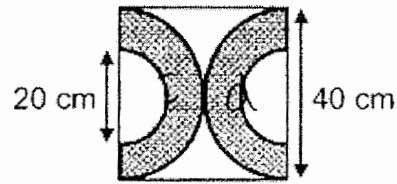


Figure 1

- (a) What is the area of the shaded parts within each tile?
- (b) Figure 2 shows part of a path completely covered with such tiles. The path is 48 m long and 40 cm wide. Find the area of the unshaded path.

Take $\pi = 3.14$.

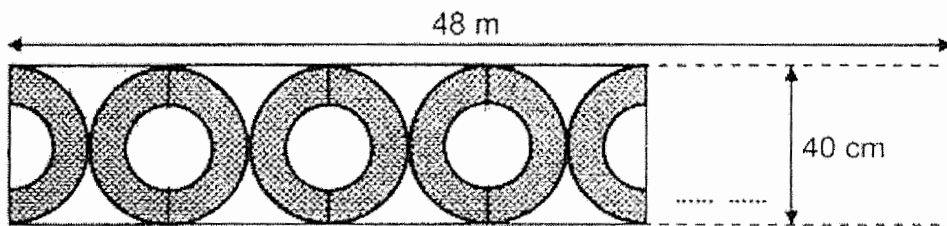
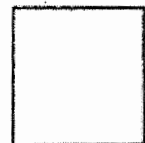


Figure 2

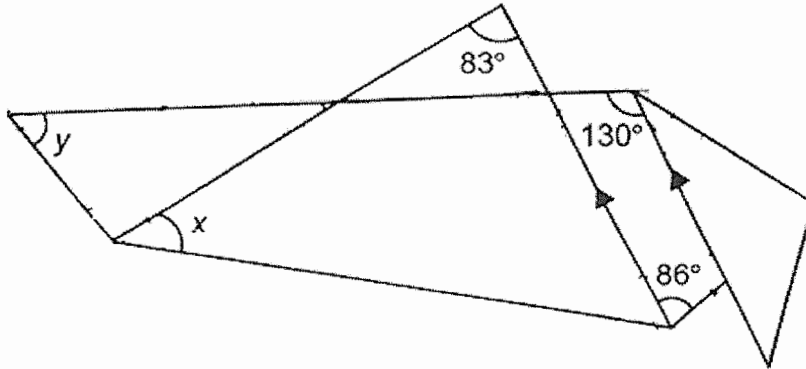
Ans: (a) _____ [1]

(b) _____ [3]



- 14 Jane folded two corners of a triangular piece of paper as shown in the figure below.

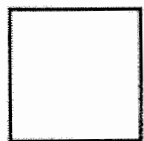
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- (a) Find $\angle x$.
(b) Find $\angle y$.

Ans: (a) _____ [2]

(b) _____ [3]



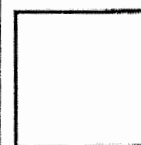
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15 At a paint shop, there were some identical pails. 60% of the pails were completely filled with paint. 32% of the pails were $\frac{1}{3}$ filled with paint. The remaining 20 pails were empty. The total amount of paint in the pails was 1590 l.

- (a) How many pails were completely filled with paint?
(b) What was the amount of paint in one full pail?

Ans: (a) _____ [2]

(b) _____ [2]

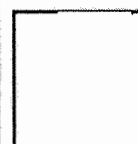


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- 16** Roger took part in a shooting game. He had to collect points by shooting gold and silver stars. He scored 8 points for each gold star shot and 3 points for each silver star shot. At the end of the game, he scored 730 points less from shooting silver stars than gold stars. Roger shot 35 fewer silver stars than gold stars. How many stars did Roger shoot altogether?

1 Gold ☆ 8 points	1 Silver ☆ 3 points
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Ans: _____ [5]



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- 17 Ken had 2 boxes of beads. Box A had 60 more beads than Box B at first. Ken then moved $\frac{1}{4}$ of the beads from Box A to Box B. Next, he moved $\frac{2}{5}$ of the beads from Box B back into Box A. Ken then added another 87 beads to Box A. In the end, the number of beads in Box A was twice the number it contained at first.
- (a) How many beads from Box B were moved back into Box A?
(b) How many beads were there in Box A in the end?

Ans: (a) _____ [3]

(b) _____ [2]



**END OF PAPER
CHECK YOUR WORK CAREFULLY !**