



**NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2020
PRIMARY 6**

**MATHEMATICS
PAPER 1
(BOOKLET A)**

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

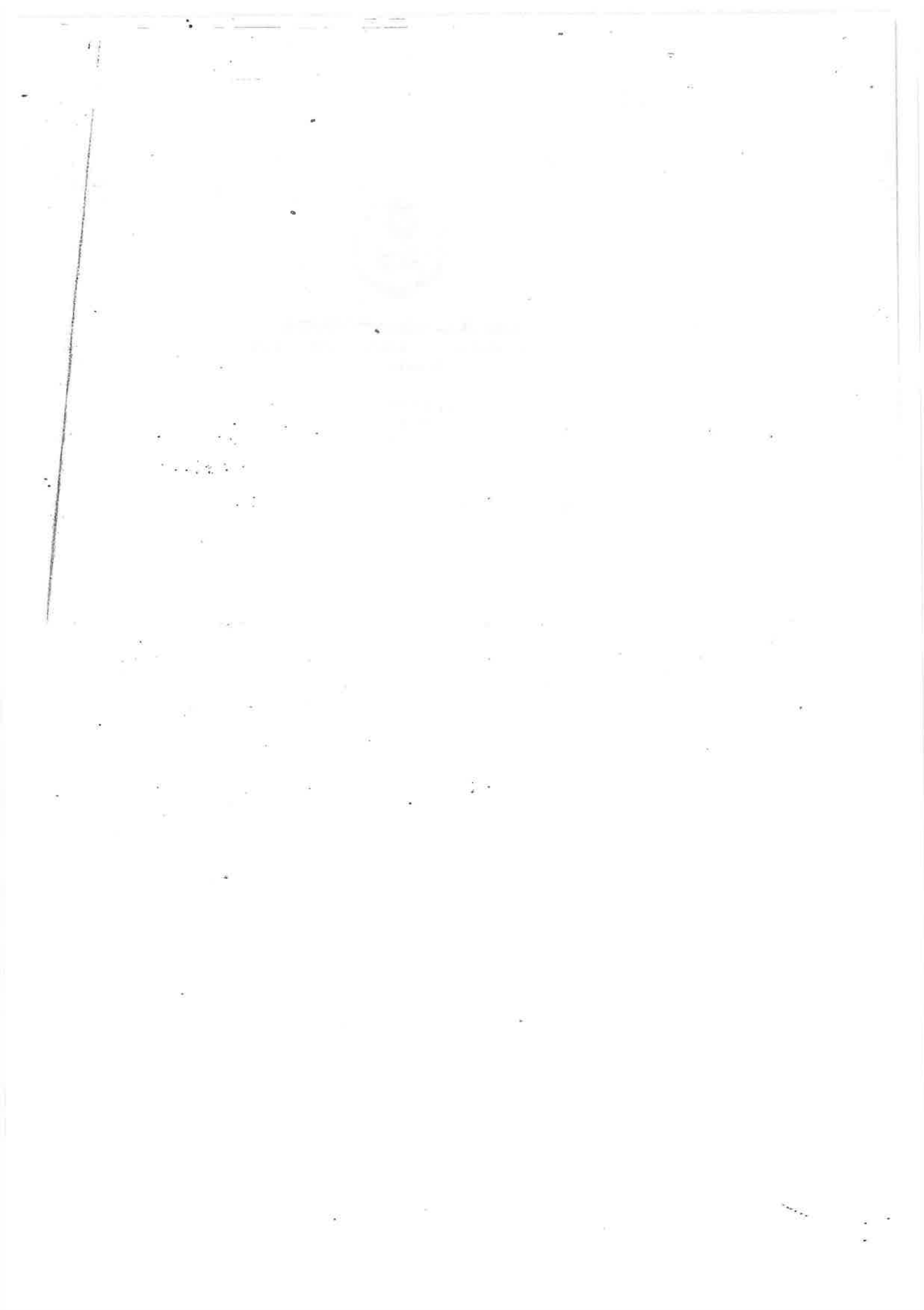
1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided for Questions 1-15.
6. The use of calculators is **NOT** allowed.

Name : _____ ()

Class : 6 _____

Date : 27 August 2020

Parent's Signature: _____



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 the oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

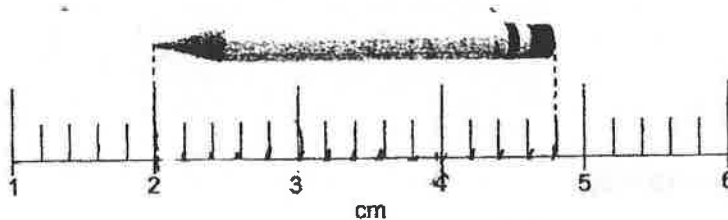
1. In 123.456, which digit is in the hundredths place?

- (1) 1
- (2) 5
- (3) 6
- (4) 4

2. Which of the following is 9000 when rounded to the nearest thousands?

- (1) 8099
- (2) 8450
- (3) 9499
- (4) 9500

3. What is the length of the pencil shown?



- (1) 2.4 cm
- (2) 2.8 cm
- (3) 4.4 cm
- (4) 4.8 cm

4. What is the approximate height of a classroom door?

- (1) 20 m
- (2) 20 cm
- (3) 200 m
- (4) 200 cm

5. Express $4\frac{2}{50}$ as a decimal.

- (1) 4.2
- (2) 4.4
- (3) 4.02
- (4) 4.04

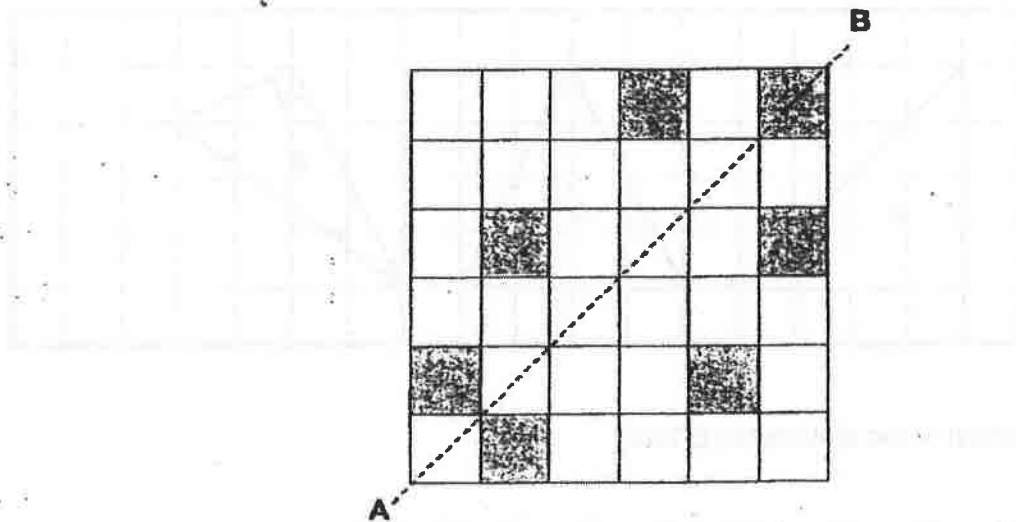
6. In a class of 36 students, 13 of them are boys. Find the ratio of the number of girls to the number of boys.

- (1) 36 : 13
- (2) 13 : 23
- (3) 23 : 13
- (4) 23 : 36

7. Simplify $15 + 8p - 10 + 5p$

- (1) $25 + 13p$
- (2) $5 + 13p$
- (3) $25 + 3p$
- (4) $5 + 3p$

8. The figure below shows some shaded squares. What is the minimum number of squares that needs to be shaded so that AB is the line of symmetry?

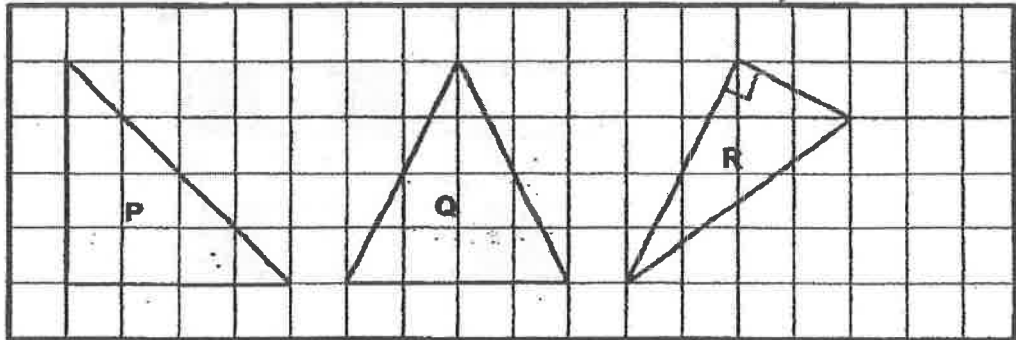


- (1) 1
- (2) 2
- (3) 3
- (4) 4

9. 120% of a number is 60. What is 30% of the number?

- (1) 15
- (2) 18
- (3) 30
- (4) 72

10. Three figures, P , Q and R , are shown in the square grid below.

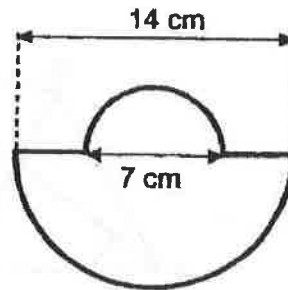


Which of the statements is true?

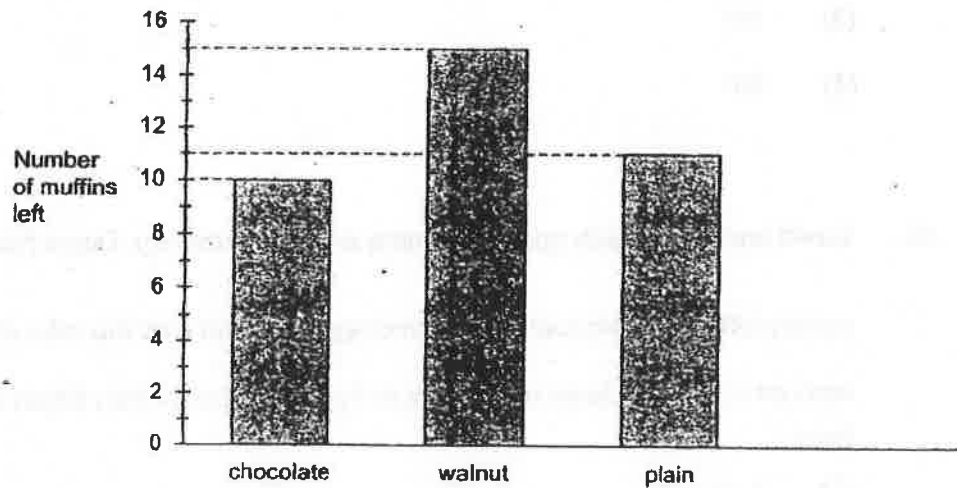
- (1) Figure Q and Figure R are isosceles triangles.
 - (2) Figure P and Figure Q are equilateral triangles.
 - (3) Figure P and Figure R are right-angled triangles.
 - (4) None of the above statements is true.
11. The average mass of 3 boys was 32 kg. When a 4th boy joined the group, the average mass of the 4 boys was 33 kg. What was the mass of the 4th boy?
- (1) 32.25 kg
 - (2) 33 kg
 - (3) 35 kg
 - (4) 36 kg

12. The figure below is formed by joining two semicircles of diameter 7 cm and 14 cm. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)

- (1) 33 cm
 (2) 40 cm
 (3) 73 cm
 (4) 115.5 cm



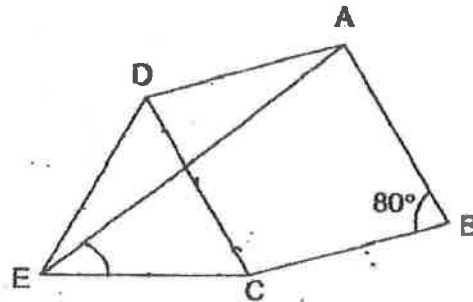
13. Sally baked 3 types of muffins to sell at a funfair. She baked 100 of each type of muffins. The graph below shows the number of each type of muffins left at the end of the funfair.



What percentage of the total number of muffins were sold?

- (1) 12%
 (2) 36%
 (3) 64%
 (4) 88%

14. In the figure, ABCD is a rhombus. CDE is an equilateral triangle. Find $\angle AEC$.



- (1) 20°
(2) 40°
(3) 60°
(4) 80°
15. David and Elijah each spent the same amount of money. David had $\frac{1}{4}$ of his money left and Elijah had $\frac{3}{5}$ of his money left. What was the ratio of the amount of money David had at first to the amount of money Elijah had at first?
- (1) 4 : 5
(2) 9 : 2
(3) 12 : 5
(4) 8 : 15



**NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2020
PRIMARY 6**

**MATHEMATICS
PAPER 1
(BOOKLET B)**

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.
6. The use of calculators is **NOT** allowed.

Marks Obtained

Paper 1	Booklet A		/ 45
	Booklet B		
Paper 2			/ 55
Total			/ 100

Name : _____ ()

Class : 6 _____

Date : 27 August 2020

Parent's Signature : _____

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. Arrange the following decimals from the smallest to the greatest:
8.609, 8.069, 6.89, 6.809

_____	_____	_____	_____
smallest			greatest

17. The number of spectators at a football match was 1500 on Saturday.
On Sunday, the number of spectators was 1200.
What was the percentage decrease in the number of spectators?

Ans: _____ %

18. A rope is cut into 6 identical short pieces. The length of each short piece is
37 cm. What is the original length of the rope in metres?

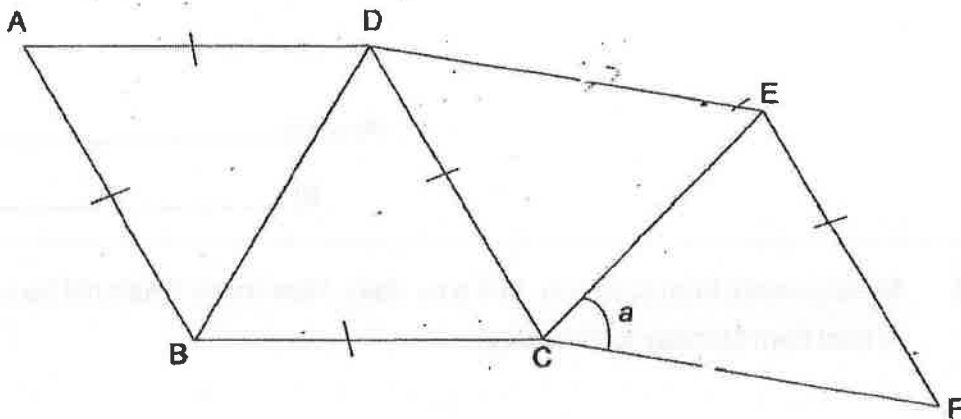
Ans: _____ m

19. Bala made a 135° clockwise turn to face North-west. Which direction was he facing at first?

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in this space

Ans: _____

20. The figure below is made up of rhombus ABCD and parallelogram CDEF. Mark the angle(s) that is/are equal to $\angle a$.



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 each questions which require units, give your answers in the units stated.

(20marks)

Do not write
in this space

21. Find the value of

a) $\frac{7}{8} \times 16$

b) $14 + \frac{2}{3}$

Ans: a) _____

b) _____

22. Mr Ang works from 8.30 a.m. to 5 p.m. daily. How many hours did he work in total from Monday to Saturday?

Ans: _____ h

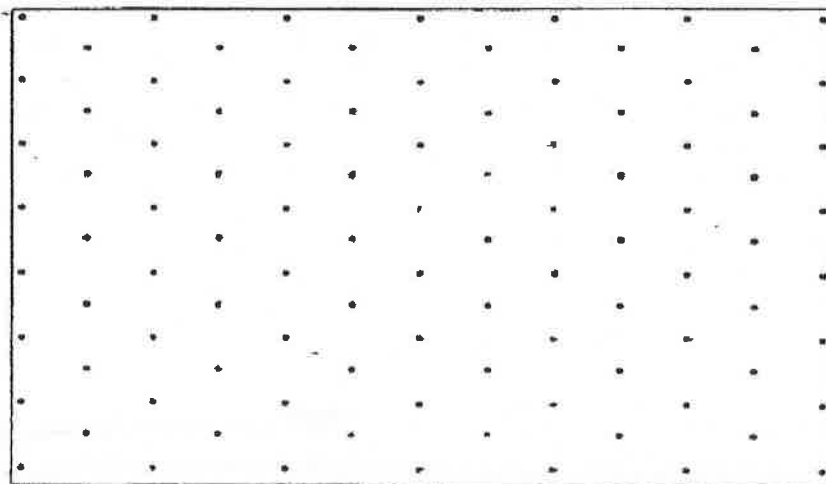
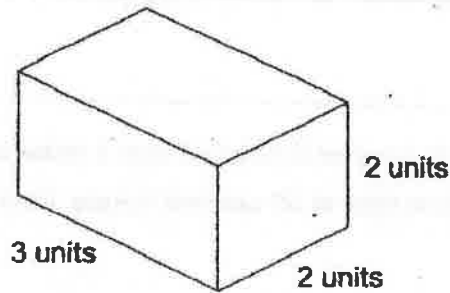
23. Siti used $\frac{3}{5}$ kg of sugar to bake some cookies. She used $\frac{1}{4}$ kg more sugar than what she used for the cookies to bake a cake. How much sugar did she use in all? (Leave your answer as a mixed number in its simplest form.)

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in this space

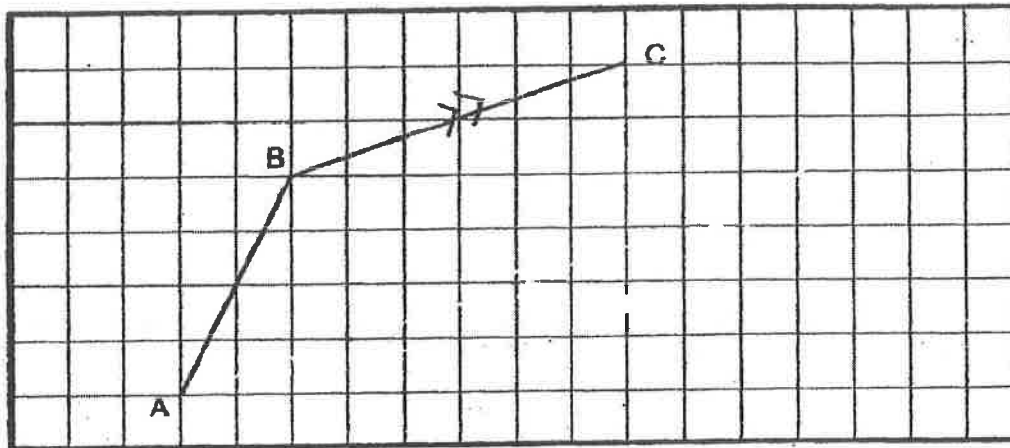
Ans: _____ kg

24. The figure below shows Cuboid A. Draw a cuboid with a volume twice that of Cuboid A on the isometric grid provided.

Cuboid A



25. In the square grid below, AB and BC are straight lines.
 AB and BC form two sides of a trapezium. $\angle BCD$ is a right angle.
 Complete the drawing of trapezium ABCD.

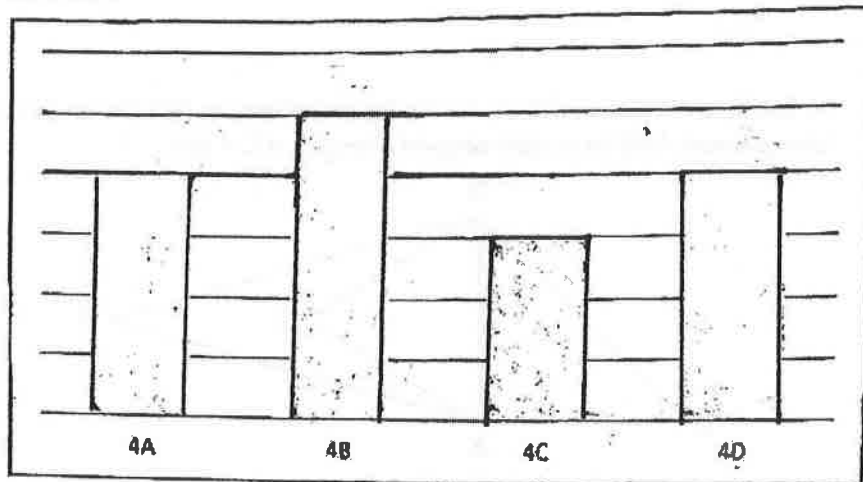


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26. Weiming sold $(k + 5)$ carnival tickets. Ali sold k more carnival tickets than Weiming. They sold a total of 55 carnival tickets. Find the value of k .

Ans: _____

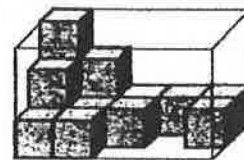
27. The graph below shows the number of cans collected by 4 different classes.



4C collected 30 fewer cans than 4B. What is the average number of cans collected by each class?

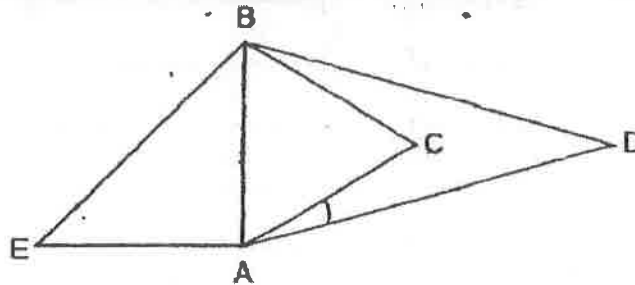
Ans: _____

28. The figure shows a rectangular glass box partially filled with unit cubes. How many more unit cubes are needed to fill the box completely?



Ans: _____

29. In the figure below, ABC is an equilateral triangle, ABD is an isosceles triangle and ABE is a right-angled triangle. $AE = AB$.



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
$\angle EBC = 105^\circ$			
$\angle ADB$ is smaller than $\angle DBA$			

30. Aini has a rectangular piece of paper. She folded two corners to the centre of the paper as shown below. Find $\angle y$.



Ans: _____

END OF PAPER

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**NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 2020
PRIMARY 6**

**MATHEMATICS
Paper 2**

Total Time for Paper 2: 1 hour 30 minutes

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully
4. Answer all questions.
5. Write your answers in this booklet.
6. The use of an approved calculator is expected, where appropriate.

Marks Obtained

Total	Max Mark
	55

Name : _____ ()

Class : 6 _____

Date : 27 August 2020

Parent's Signature : _____

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

1. Raju and Huili used blocks to build towers. Raju's tower was 145 cm tall. Huili's tower was 8 cm shorter than ~~Bala's~~ Raju's tower. How tall was Huili's tower in metres?

Do not write in this space

Ans: _____ m

2. The first 14 numbers in a number pattern are given below.

$\underset{1^{\text{st}}}{3}, 1, 0, 5, 3, 1, 0, 5, 3, 1, 0, 5, 3, \underset{14^{\text{th}}}{1}, \dots$

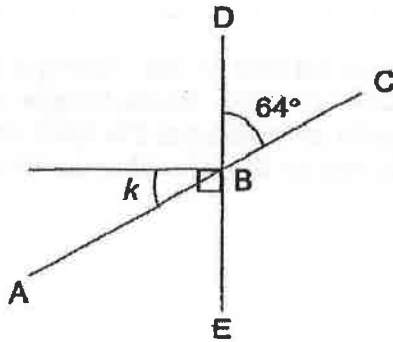
What is the sum of the first 70 numbers?

Ans: _____

3. The breadth of a rectangle is $2d$ m. The length of the rectangle is 3 m longer than its breadth. What is the perimeter of the rectangle?

Ans: _____ m

4. In the figure, ABC and DBE are straight lines. Find $\angle k$.



Do not
write in
this space

Ans: _____ °

5. At a camp, the boys and girls are divided into groups of 18. The table below shows the number of girls in each group.

Group	Number of girls
Courtesy	10
Righteousness	12
Integrity	
Humility	9

$\frac{3}{8}$ of the participants are boys. How many girls are there in Integrity?

Ans: _____

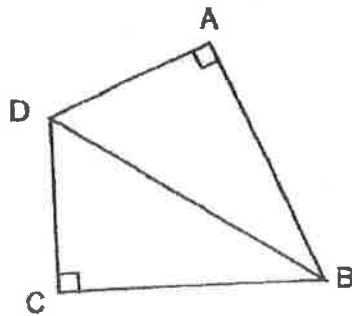
For questions from 6 to 17, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [] at the end of each question or part-question. (45 marks)

6. The usual price of a television set was \$1750. During a sale, the price of the television set was reduced by 30%. Jessie bought the television set during the sale. She also paid an additional 7% GST on the discounted price. How much did Jessie pay for the television set in total?

Do not write in this space

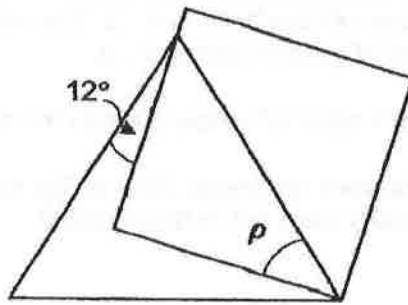
Ans: _____ [3]

7. Rashid cut out two identical right-angled triangles. He joined them to form the figure ABCD shown below. The ratio of the length of AB to the length of AD is 3 : 2. The perimeter of the figure is 125 cm. Find the area of the figure ABCD.



Ans: _____ [3]

8. The figure is made up of an equilateral triangle and a square. Find $\angle p$.



Do not
write in
this space

Ans: _____ [3]

9. A basket contained red, blue and yellow balls only. The ratio of the number of red balls to the number of blue balls is 4 : 3. The ratio of the number of blue balls to the number of yellow balls is 2 : 3.

Do not write in this space

a) Find the ratio of the number of yellow balls to the number of red balls.

b) After 15 yellow balls were removed, 30% of the remaining balls were yellow. How many balls were left in the basket?

Ans: a) _____ [1]

b) _____ [3]

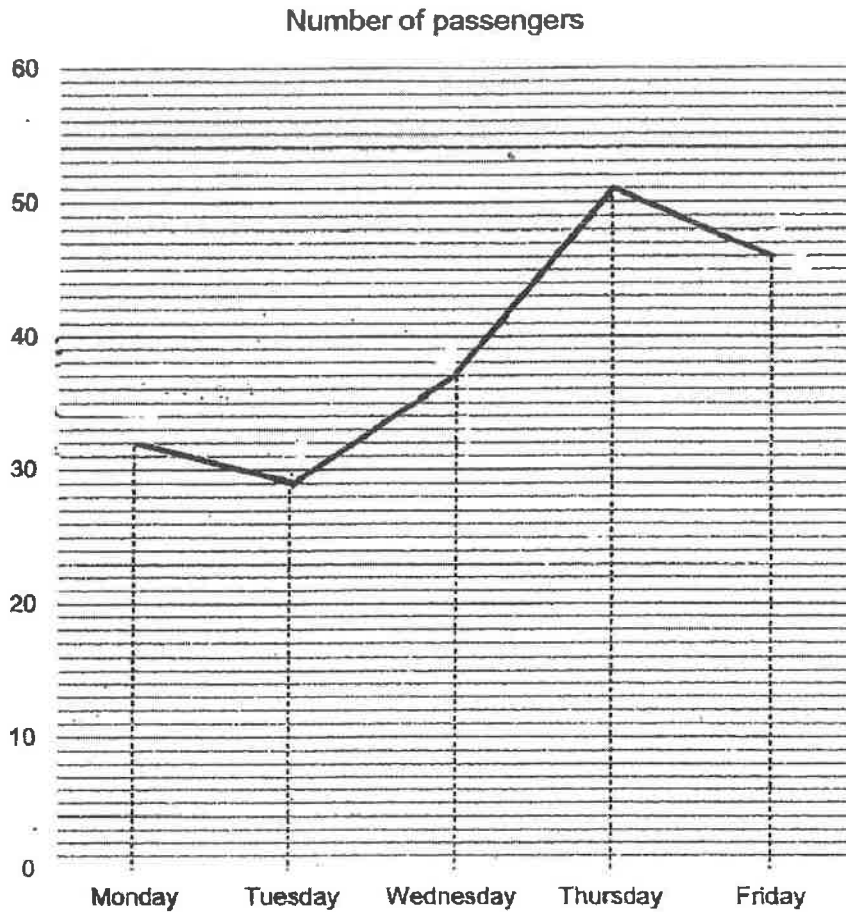
10. The average of 6 numbers is 78. When one number was removed, the average increased by 9. What is the number that was removed?

Do not write in this space

Ans: _____ [4]

11. The line graph shows the number of passengers a taxi driver picked up from Monday to Friday.

Do not write in this space



- (a) What was the total number of passengers picked up from Monday to Thursday?
- (b) The number of passengers on Saturday was a 50% increase of the number of passengers on Friday. How many passengers were there on Saturday?

Ans: a) _____ [2]

b) _____ [2]

12. Tap A can fill a tank to its brim in 20 minutes. Tap B can fill the same tank to its brim in 30 minutes. Both taps are turned on at the same time to fill the tank together. How long will it take to fill the tank to its brim?

Do not write in this space

Ans: _____ [3]

13. A group of students took part in a quiz. $\frac{2}{5}$ of the boys and $\frac{1}{3}$ of the girls were prize-winners. $\frac{4}{9}$ of the prize-winners were boys. What fraction of the students were not prize-winners?

Do not
write in
this space

Ans: _____ [3]

14. Mrs Tan decorated opposite sides of a rectangular room for her son's birthday party. On one side, she hung triangular flags of base 15 cm from one end to the other without leaving any gaps as shown in Figure 1.

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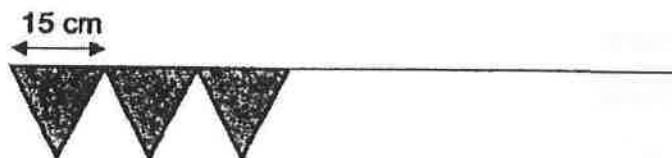


Figure 1

On the other side, she hung photographs of her son from strings tied 9 cm apart, the first photo and the last photo 9 cm away from the wall as shown in Figure 2.

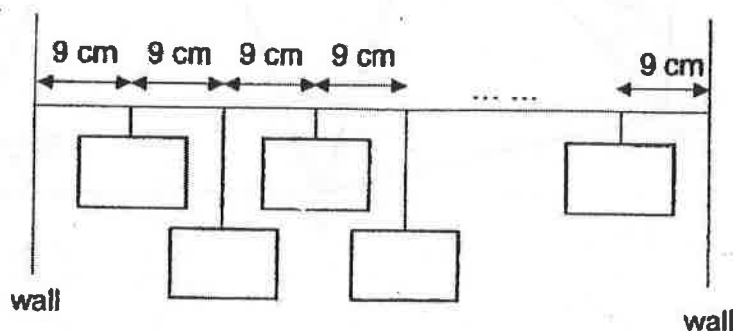


Figure 2

She used 19 more photos than flags. What was the length of the room in metres?

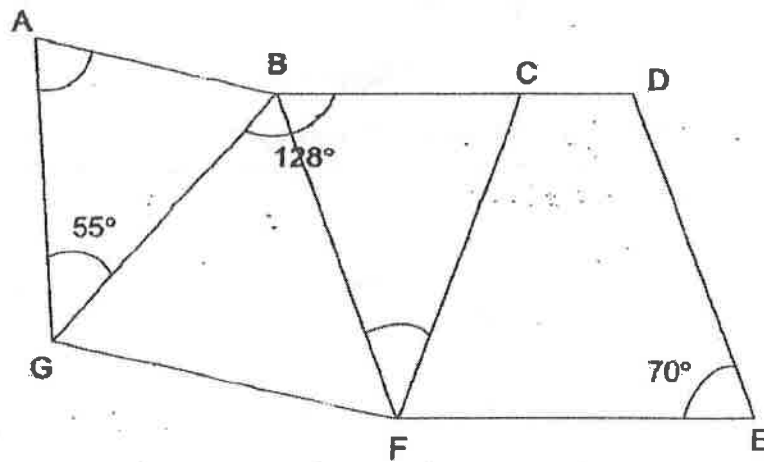
Ans: _____ [4]

15. In the figure below, BDEF is a rhombus. ABFG is a trapezium. AB is parallel to GF. $BF = FG = CF$. $\angle DEF = 70^\circ$, $\angle GBC = 128^\circ$ and $\angle AGB = 55^\circ$.

Do not write in this space

a) Find $\angle BFC$.

b) Find $\angle GAB$.



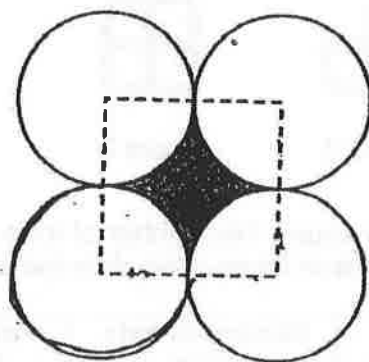
Ans: a) _____ [2]

b) _____ [2]

16. The figure below shows four identical circles. A square of sides 24 cm can be formed by joining the centres of the circle. (Take $\pi = 3.14$)

Do not write in this space

- a) Find the perimeter of the figure.
b) Find the area of the shaded part.



Ans: a) _____ [2]
b) _____ [3]

17. Roy uses rods of 3 cm to form figures that follow a pattern. The first four figures are shown below.

Do not write in this space



Figure 1

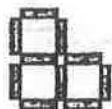


Figure 2

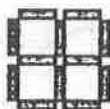


Figure 3

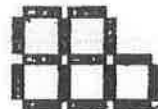


Figure 4

- a) The table below shows the number of rods used for each figure and the perimeter of each figure. Complete the table for Figure 5.

Figure number	Number of rods used	Perimeter of the figure (cm)
1	7	18
2	10	24
3	12	24
4	15	30
5	(i)	(ii)

- b) What is the perimeter of the figure formed in Figure 40?
 c) Roy uses 60 rods to make a figure. What is the figure number?

Ans: a) (i) _____

(ii) _____ [1]

b) _____ [2]

c) _____ [2]



– End of Paper 2 –

ANSWER KEY

YEAR: 2020

LEVEL: PRIMARY 6

SCHOOL: NAN HUA PRIMARY SCHOOL

SUBJECT: MATH

TERM: PRELIMINARY EXAMINATION

BOOKLET A

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

BOOKLET B

Q16. 6.809, 6.89, 8.069, 8.609

$$\begin{aligned} \text{Q17. } \frac{1200}{1500} &= \frac{12}{15} = \frac{4}{5} \\ &= \frac{80}{100} \end{aligned}$$

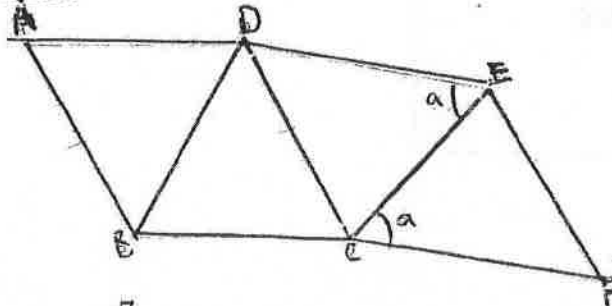
$$100 - 80 = 20\%$$

Q18. $37 \times 6 = 222$

$222\text{cm} = 2.22\text{m}$

Q19. South

Q20.



$$\text{Q21. a) } \frac{7}{8} \times 16 = 14$$

b) $14 \times \frac{3}{2} = 21$

Q22. 8.30a.m. \rightarrow 9a.m.

9a.m. \rightarrow 5p.m.

8h+30min=8h 30 min

8 30min $\times 6 = 48h 180min = 51h$

Q23. Cookie = $\frac{3}{5}$

Cake = $\frac{3}{5} + \frac{1}{4}$ kg

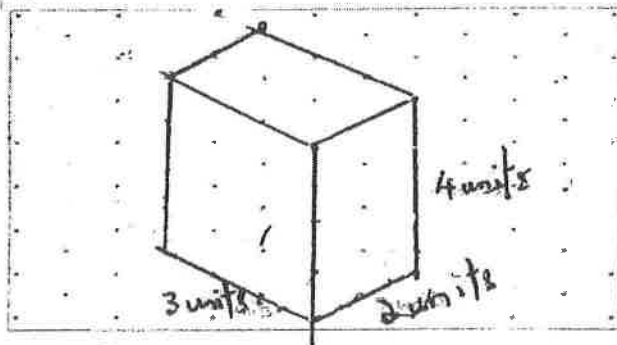
= $(\frac{12}{20} + \frac{5}{20})$ kg

= $\frac{17}{20}$ kg

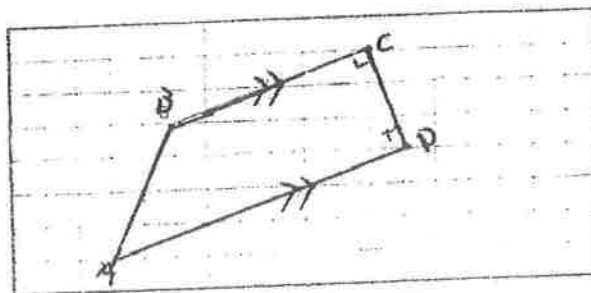
$\frac{12}{20} + \frac{17}{20} = \frac{29}{20}$ kg

= $1\frac{9}{20}$

Q24.



Q25.



Q26. $W = (K+5)$

$$A = K + 5 + K$$

$$= 2K + 5$$

$$3K$$

$$3K + 10 = 55$$

$$3K = 45$$

$$K = 15$$

$$\text{Q27. } 5u - 3u = 2u$$

$$2u = 30$$

$$u = 15$$

$$15 \times (4 + 5 + 3 + 4) = 15 \times 16 = 240$$

$$240 \div 4 = 60$$

$$\text{Q28. } 5 \times 3 \times 3 + 45$$

$$45 - 15 = 30$$

Q29. True, True

$$\text{Q30. } 360^\circ - 90^\circ - 90^\circ - 68^\circ = 112^\circ$$

$$180^\circ - 112^\circ = 68^\circ$$

$$68^\circ \div 2 = 34^\circ$$

100

ANSWER KEY

YEAR: 2020

LEVEL: PRIMARY 6

SCHOOL: NAN HUA PRIMARY SCHOOL

(PAPER 2)

Q1. $148-8=137$

$137\text{cm}=1.37\text{m}$

Q2. $70\div 4=17\text{R}2$

$17\times(3+1+0+5)=153$

$153+3+1=157$

Q3. $2d+2d+3=4d+3$

$(4d+3)2=8D+6$

Q4. $90^\circ-64^\circ=26^\circ$

Q5. $18-1=17$ Boys in C

$18-12=6$ Boys in R

$18-9=9$ Boys in H

$$\frac{10+12+9+x}{8+6+9+18-y} = \frac{5}{3}$$

$93=3x=205-5x$

$8x=112$

$x=14$

Q6. $100\%-30%=70\%$

$\$1750\times 70%=\1225

$\$1225\times 107%=\1310.75

He pay $\$1310.75$

Q7. $2u+3u+2u+3u=10u$

$125\text{cm}=10u$

$u=12.5\text{cm}$

$12.5\text{cm}\times 2=25\text{cm}$

$12.5\text{cm}\times 3=37.5\text{cm}$

$25\text{cm}\times 37.5\text{cm}=937.5\text{cm}^2$

The area is 937.5cm^2

Q8. $\angle a = 64^\circ = 12^\circ$

$= 48^\circ$

$180^\circ - 48^\circ - 90^\circ = 42^\circ$

$\angle P$ is 42°

Q9. $9u:8u=9:8$

The ratio is $9:8$

$8u+6u+15=\frac{3}{10}$

$90u-150=69u-45$

$21u=105$

$u=5$

$(8+6+9)5-15=100$

100 balls were left in the basket.

a) $9:8$

b) 100

Q10. $6\times 78=468$

$(78+9)5=435$

$468-435=33$

The number is 33

Q11. $32+29+37+51=149$

$46\times 150\%=69$ passengers

a) 149

b) 69

Q12. $A \rightarrow \frac{1}{20} \text{ T/min}$

$B \rightarrow \frac{1}{30} \text{ T/min}$

$$\frac{1}{20} + \frac{1}{30} = \frac{1}{12}$$

$$1 = \frac{1}{12} = 12$$

It takes 12 min

Q13. $4p+6p+5p+10p=25p$

$\frac{6p+10p}{25p} = \frac{16}{25}$ of the students were not.

Q14. $\frac{x}{15} + 19 = \frac{x-9}{9}$

$9x + 2565 = 15x - 135$

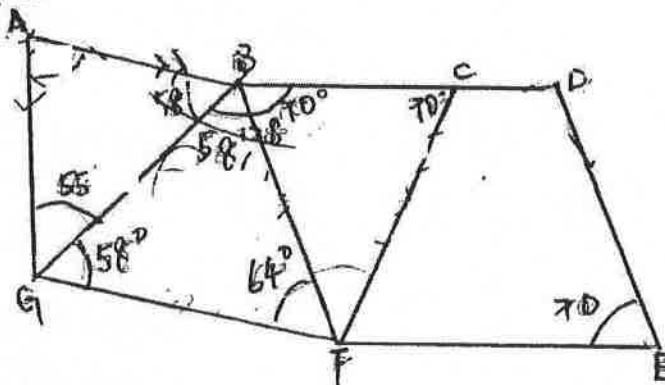
$6x = 2700$

$x = 450$

$450 \text{ cm} = 4.5 \text{ m}$

The rooms is 4.5m long

Q15.



$180^\circ - 70^\circ = 110^\circ$

$\angle GBF = 128^\circ - 70^\circ = 58^\circ$

$\angle BFG = 180^\circ - 58^\circ - 58^\circ = 64^\circ$

$180^\circ - 58^\circ - 55^\circ = 67^\circ$

a) 40°

b) 67°

Q16. $12 \times 2 = 24$

$24 \times 3.14 \times \frac{3}{4} \times 4 = 226.08 \text{ cm}$

$24 \times 24 = 576$

$12 \times 12 \times 3.14 = 452.16$

$576 - 452.16 = 123.84 \text{ cm}^2$

a) 226.08 cm

b) 123.84 cm^2

Q17.

fig 1 \rightarrow 18

fig 3 \rightarrow 24

fig 5 \rightarrow 30

fig 7 \rightarrow 36

fig 9 \rightarrow 42

fig 17 \rightarrow $(42 - 18) + 42 = 66$

fig 39 \rightarrow 132

$132 + 6 = 138$

a)(i) 17

(ii) 30

b) 138 cm

c) 22u

7
END