2017 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET A)

Name: _____ ( ) Parent's Signature

Class: Primary 6_____ _____

Marks:

Paper 1	Booklet A	20
	Booklet B	20
Paper 2		60
Total		100

Total Time for Booklets A and B: 50 min

Do not turn over this page until you are told to do so.
Follow all instructions carefully.
Answer all questions.
Shade your answers in the Optical Answer Sheet (OAS) provided.
You are **not** allowed to use a calculator.

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

(20 marks)

---

1. What is the value of 30 ones, 30 tenths and 30 hundredths?

(1) 33.3
(2) 30.33
(3) 33.03
(4) 3 330

2. Find the value of $\frac{8}{9} \div \frac{2}{3}$

(1) $\frac{3}{4}$
(2) $\frac{16}{27}$
(3) $1\frac{1}{3}$
(4) $1\frac{11}{16}$

3. Which of the following is the same as 4020 g ?

(1) 4 kg 2 g
(2) 4 kg 20 g
(3) 40 kg 2 g
(4) 40 kg 20 g

(Go on to the next page)

4. Mrs Toh started her 20-minute jog at 6.35 a.m. After her jog, she did her housework until 8.15 a.m. How much time did she spend doing her housework?

(1) 1 h 20 min
(2) 1 h 40 min
(3) 2 h 20 min
(4) 2 h 40 min

5. The table below shows the number of library books borrowed by some pupils on a particular day.

Number of books borrowed	0	1	2	3	4
Number of pupils	6	8	10	12	4

How many pupils borrowed **at least** 3 library books?

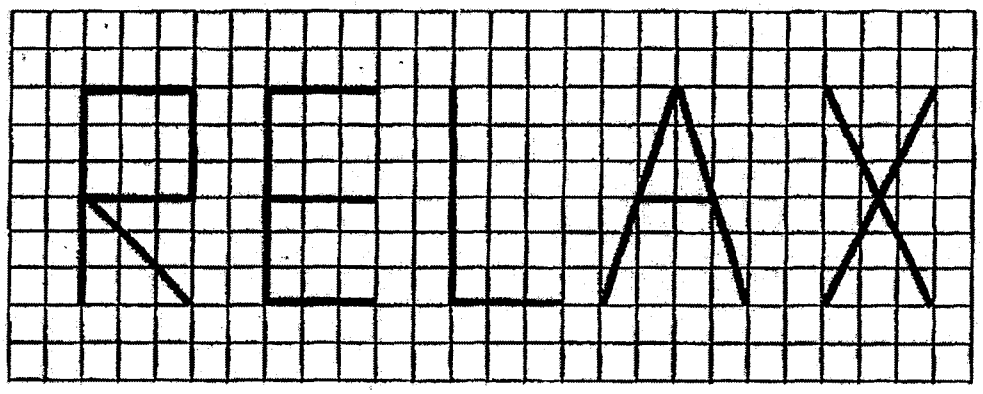
(1) 24
(2) 16
(3) 12
(4) 4

6. Find the value of $33 - (18 - 12 \div 3)$.

(1) 1
(2) 9
(3) 19
(4) 31

(Go on to the next page)

7. In the diagram below, the letters R, E, L, A and X are drawn on a square grid.



Which of the letters above have <u>only</u> 1 line of symmetry?

(1) A and E

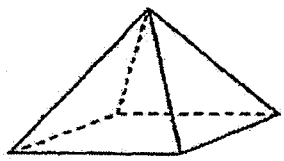
(2) A and X

(3) E and R

(4) L and X

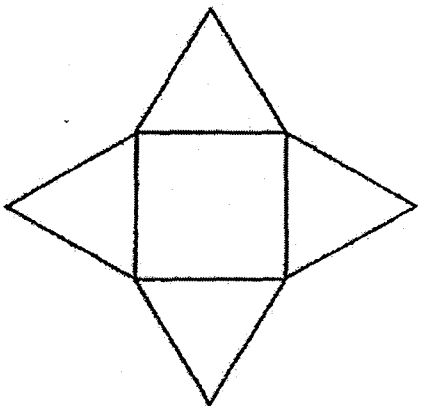
(Go on to the next page)

8. The figure below shows a pyramid.

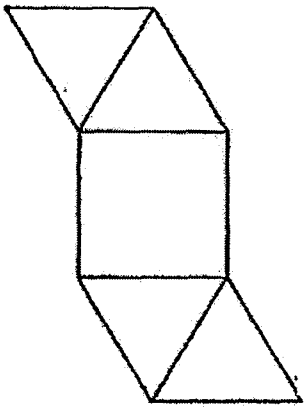


Which one of the following is **not** a net of the pyramid?

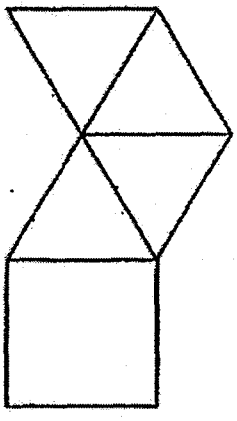
(1)



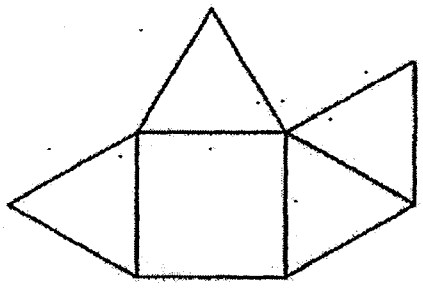
(2)



(3)



(4)

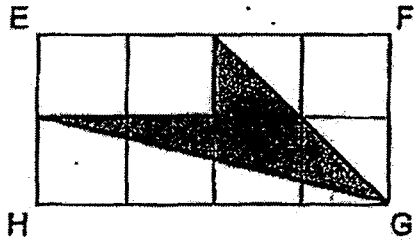


(Go on to the next page)

9. Fatimah spent 30% of her salary and still had $4200 of her salary left. How much money did she spend?

(1) $600
(2) $980
(3) $1400
(4) $1800

10. The rectangle EFGH below is made up of 8 identical squares. What is the ratio of the area of the shaded part to the area of the unshaded part?



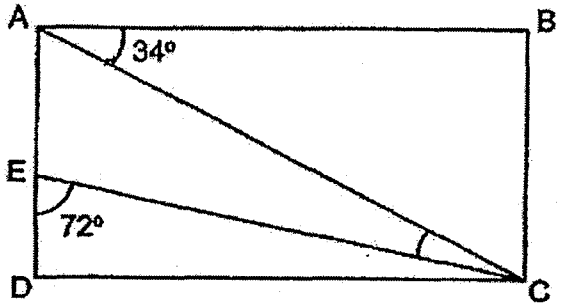
(1) 1 : 3
(2) 1 : 4
(3) 3 : 1
(4) 4 : 1

11. Jack and Bill had $300 altogether. After Jack spent $60, he had twice as much money as Bill. How much money did Bill have?

(1) $70
(2) $80
(3) $140
(4) $160

(Go on to the next page)

12. In the figure below, ABCD is a rectangle. $\angle BAC = 34°$ and $\angle CED = 72°$. Find the value of $\angle ACE$.



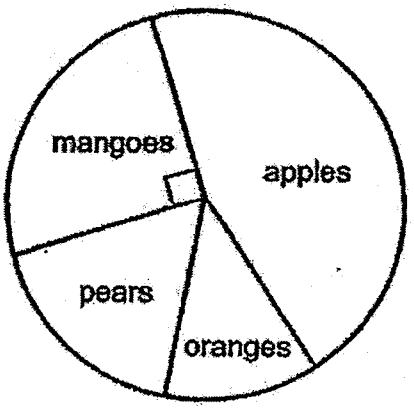
(1) 16°

(2) 17°

(3) 18°

(4) 27°

13. The pie chart shows the number of fruits sold at a fruit stall.



There are 65 pears and 100 mangoes at the stall. The number of mangoes is twice the number of oranges. How many apples are there at the stall?

(1) 115

(2) 145

(3) 165

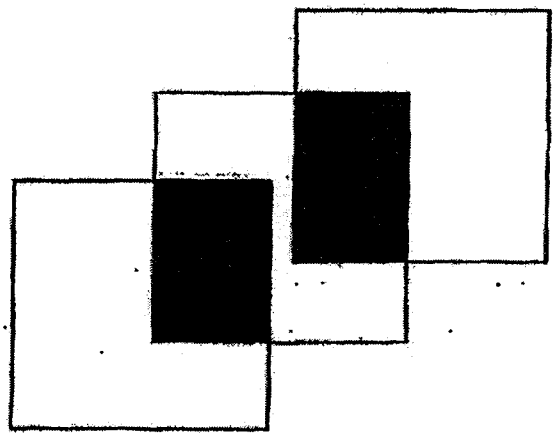
(4) 185

(Go on to the next page)

14. A baker sold 400 cakes in 5 days. Each day, he sold 7 cakes fewer than the previous day. Find the number of cakes he sold on the first day.

(1) 59
(2) 66
(3) 87
(4) 94

15. The figure below is made up of 3 identical squares, each with an area of 81 cm^2. The squares overlap each other as shown below. The overlapped parts are identical. Given that the area of the figure is 183 cm^2, find the area of each overlapped part.



(1) 20 cm^2
(2) 30 cm^2
(3) 51 cm^2
(4) 60 cm^2

(Go on to Booklet B)

2017 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET B)

Name: _____ ( )

Class: Primary 6_____

/ 20

Total Time for Booklets A and B: 50 min

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

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

You are **not** allowed to use a calculator.

Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

Do not write in this space

16. Round off 49 989 to the nearest hundred.

Ans: _____

17. In a Mathematics test, Abel scored 64 marks, Barney scored 68 marks and Chris scored 48 marks. What was their average score for the test?

Ans: _____

18. Mrs Tee paid for 6 identical bowls with a fifty-dollar note. She received $\$m$ change. Express the cost of 1 bowl in terms of m.

Ans: $_____

(Go on to the next page)

19. The table shows the postage charges for sending letters.

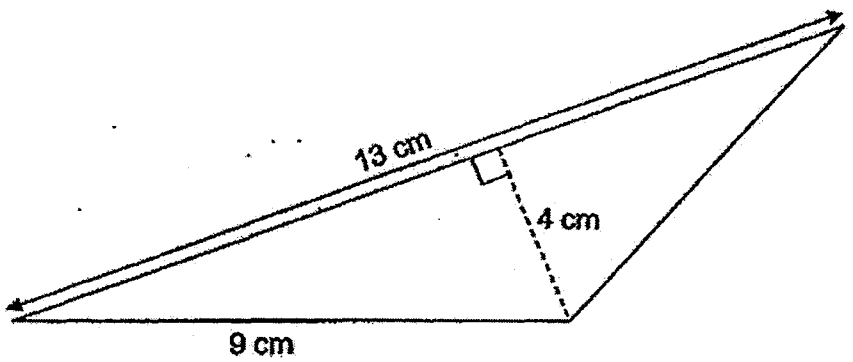
Do not write in this space

Mass	Cost
First 20 g	$ 1.20
Every additional 10 g or part thereof	$ 0.35

Wendy posted a letter weighing 38 g. How much money did she have to pay as postage?

Ans: $_____

20. Find the area of the triangle shown below.

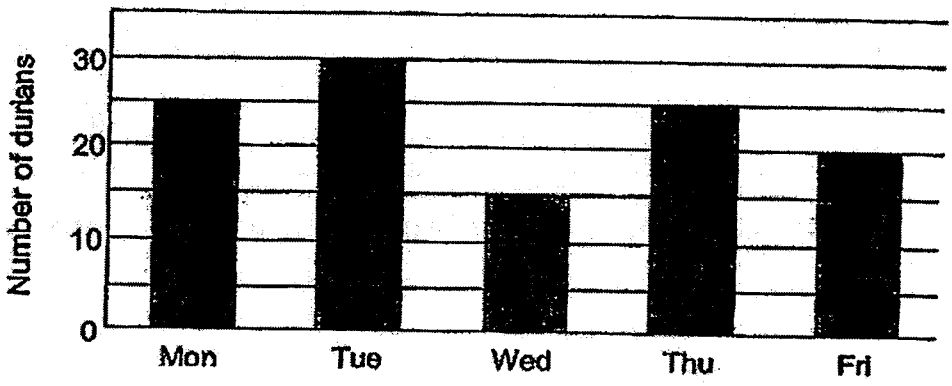


Ans: _____ cm^2

(Go on to the next page)

21. The graph below shows the number of durians sold from Monday to Friday.

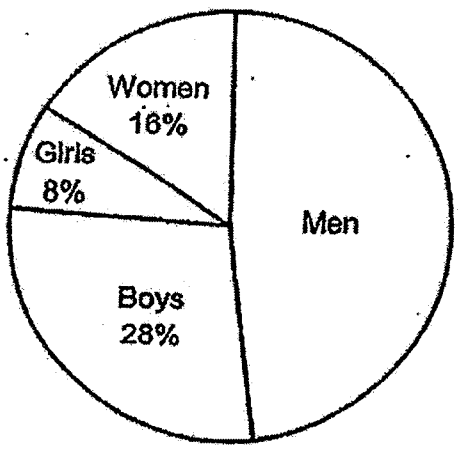
Do not write in this space



What is the ratio of the number of durians sold on Wednesday to the total number of durians sold over the five days?

Ans: _____

22. The pie chart below represents the number of spectators at a soccer match.
What fraction of the spectators is made up of men?
Give your answer in the simplest form.



Ans: _____

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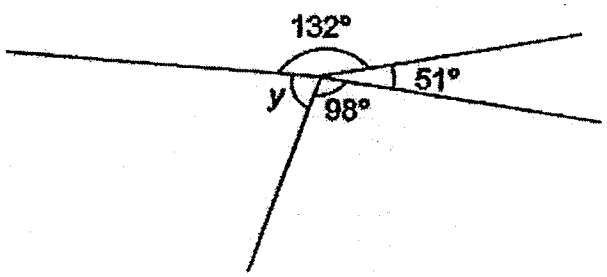
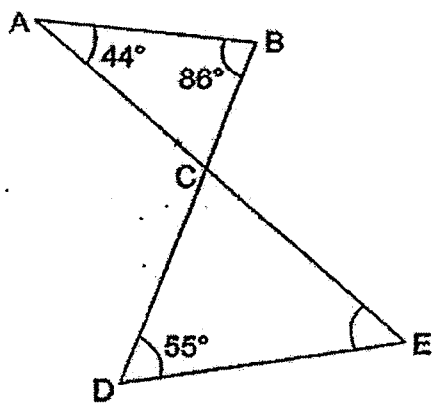
23. Find $\angle y$ in the figure below.



Ans: _____ °

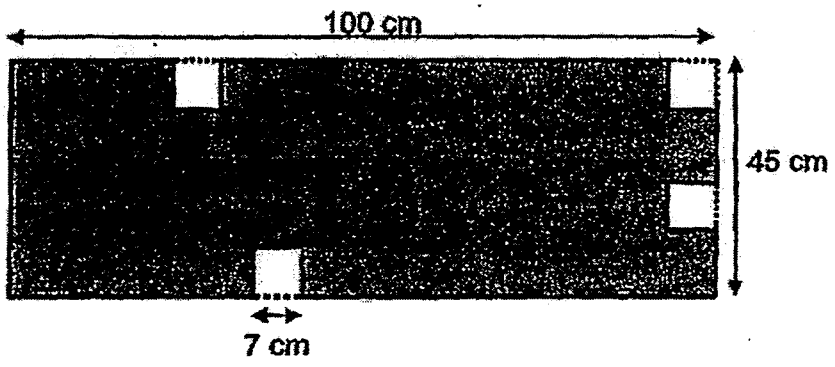
24. In the figure below, ACE and BCD are straight lines.
$\angle ABC = 86°$, $\angle CAB = 44°$ and $\angle CDE = 55°$. Find $\angle CED$.



Ans: _____ °

25. Four identical 7–cm squares were cut out from a rectangular piece of grey paper measuring 100 cm by 45 cm as shown below. Find the perimeter of the remaining piece of grey paper.

Do not write in this space



Ans:_____ cm

(Go on to the next page)

Questions 26 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.

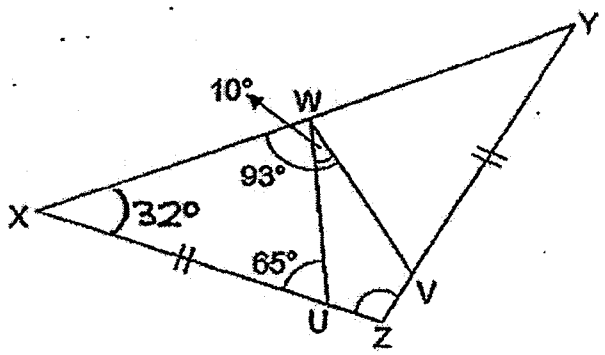
(10 marks)

Do not write in this space

26. Sally used 2 identical pieces of ribbon to tie a hamper. $\frac{5}{8}$ of each piece of ribbon was 4 m. Find the total length of the ribbon used. Express your answer as a fraction in its simplest form.

Ans: _____ m

27. In the figure below, XYZ is an isosceles triangle.
Given that $\angle XWV = 93°$, $\angle UWV = 10°$ and $\angle WUX = 65°$, find $\angle XZY$.



Ans: _____ °

Do not write in this space

28. The price of an eraser is $\frac{3}{4}$ the price of a pencil. The price of a highlighter is $\frac{1}{2}$ the price of an eraser. Given that each highlighter costs \$1.50, find the cost of the pencil.

Ans: \$_____

29. A childhood game is played by rolling a wheel as shown below.

The radius of a wheel is 40 cm. What is the distance covered when the wheel makes 10 complete turns? (Take $\pi = 3.14$)

Ans: _____ cm

(Go on to the next page)

30. Chloe collected 2 types of bookmarks. The table shows the number of each type of bookmarks she had at first.

Do not write in this space

Materials of bookmarks	Number of bookmarks
Paper	69
Plastic	36

After Chloe's father gave her some paper bookmarks, the percentage of her plastic bookmarks decreased to 20%. Find the total number of bookmarks given to Chloe by her father.

Ans: _____

End of Paper 1

2017 PRELIMINARY EXAMINATION
MATHEMATICS
PRIMARY 6

PAPER 2

Parent's Signature

_____

Name: _____ ( )

Class: Primary 6 _____

60

Time for Paper 2: 1 h 40 min

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

Follow all instructions carefully.

Answer all questions.

Show your working clearly as marks are awarded for correct working.

Write your answers in this booklet.

You are allowed to use a calculator.

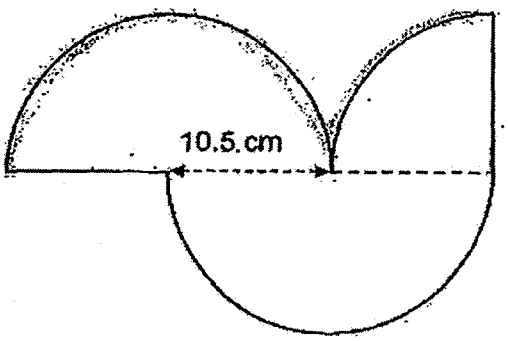
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

1. A chef bought a total of 9 kg of prawns and fish. He cooked 3.855 kg of fish and had $\frac{1}{4}$ of the mass of fish left. What is the mass of prawns he bought?

Ans: _____ kg

2. The figure below is made up of a quadrant and 2 identical semicircles of radius 10.5 cm. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)

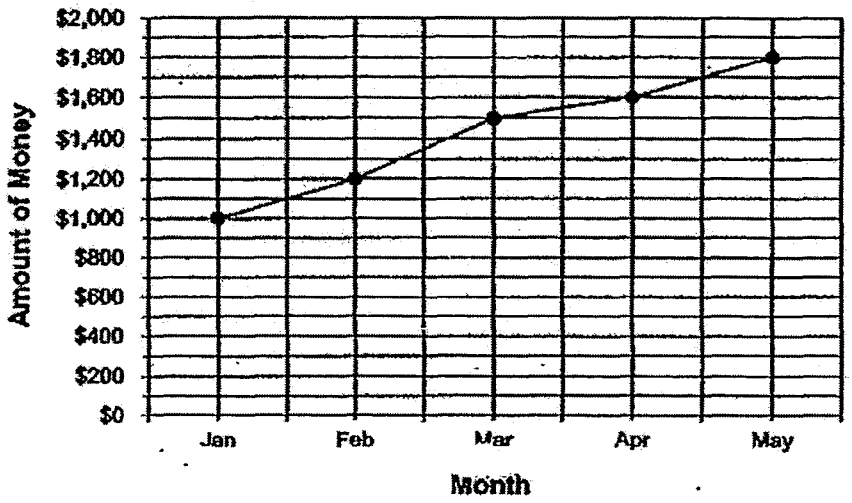


Ans: _____ cm

(Go on to the next page)

Do not write in this space

3. Since January, David deposits his savings into his bank account every month. The graph below shows the amount of money in David's bank account at the end of each month from January to May.



Given that David's monthly salary is $4500 what percentage of David's salary did he save in March? Express your answer as a fraction in its simplest form.

Ans: _____ %

4. Peter must score an average of 85 points for 3 games in order to win a prize at a funfair. Peter scored 68 points and 79 points for the first 2 games. What is the least number of points he needs to score in the 3rd game to win a prize?

Ans: _____

(Go on to the next page)

5. Mrs Yip had 615 red pens and 549 blue pens. After selling twice as many blue pens as red pens, she had a total of 363 pens left. How many red pens had she left?

Do not wri
In this spa

Ans: _____

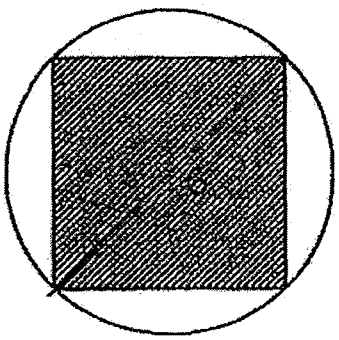
(Go on to the next page)

For questions 6 to 18, 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.

Do not write in this space

(50 marks)

6. The figure below consists of a square and a circle with diameter of 6 cm. What is the area of the unshaded part? (Take $\pi = 3.14$)



Ans: _____ [3]

7. Ben received \$1.50 more pocket money than Jerry daily. Each boy spent \$2.20 a day and saved the rest. When Jerry had saved \$28.80, Ben had saved \$24 more than Jerry. How much pocket money did Ben receive daily?

Ans: _____ [3]

(Go on to the next page)

8. A rectangular tank measures 34 cm by 52 cm by 16 cm. Alice managed to fit in a total of 56 identical cubes into the tank before covering it with a lid. This was the greatest number of such cubes she could fit into the tank. Given that the length of one side of the cube is a whole number find its length.

Do not write in this space

Ans:_____[3]

(Go on to the next page)

9. Weiming is f years old now. His mother is 1 year younger than his father. In 4 years' time, Weiming's father will be twice Weiming's age. How old is Weiming's mother now? Express your answer in terms of f.

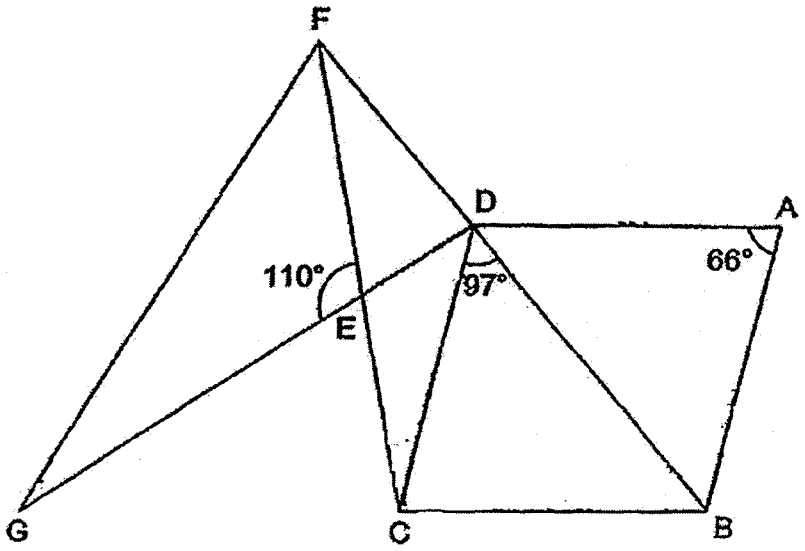
Do not write in this space

Ans: _____ [3]

(Go on to the next page)

10. In the figure below, ABCD is a rhombus. $\angle EDB = 97°$ $\angle FEG = 110°$ and $\angle BAD = 66°$. Given that GED, FEC and FDB are straight lines, find $\angle FGD$.

Do not write in this space



Ans: _____ [3]

(Go on to the next page)

11. Steven and Tom started cycling at the same time along a 6.5 km track. Both did not change their speeds throughout the whole journey. Steven cycled at a speed of 30 m/min faster than Tom. When he reached the end of the track, Tom was 600 m behind him. What was Tom's cycling speed in m/min?

Do not write in this space

Ans:_____ [4]

(Go on to the next page)

12: Meifen has a number of 10¢, 20¢ and 50¢ coins in the ratio of 8 : 3 : 5 respectively. The total value of all the coins is $195.

Do not write in this space

(a) Meifen spent half the number of her 50¢ coins. Find the new ratio of the number of 10¢ coins to the number of 20¢ coins to the remaining number of 50¢ coins.

(b) What is the total value of the 20¢ coins?

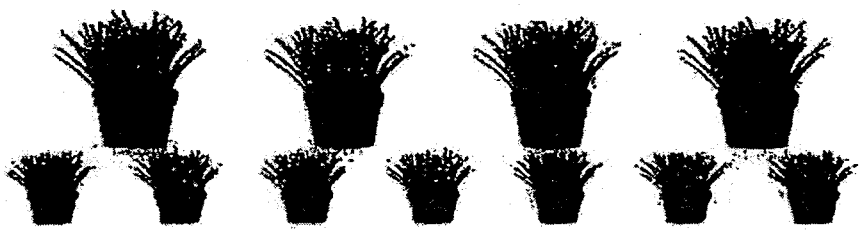
Ans: (a) _____ [1]

(b) _____ [3]

(Go on to the next page)

13. Mrs Tang had some money. She used \$53 to pay for 4 identical large potted plants and 7 identical small potted plants.

Do not write in this space



If she bought another large potted plant, she would be short of \$3.50.
If she bought another small potted plant, she would have \$1.50 left.

a) What is the difference in price between the large and the small potted plant?

b) Find the price of one large potted plant.

Ans: (a) _____ [1]

(b) _____ [3]

(Go on to the next page)

14. Every month, Jevier spends $\frac{2}{5}$ of his salary on food $\frac{4}{9}$ of the remainder on rent and saves the rest of his salary.

(a) What fraction of his salary does Jevier save?
Give your answer in the simplest form

(b) Jevier is saving to buy a laptop that costs $4000. Given that he spends $1200 on food every month. how long will he take to save in order to buy the laptop?

Do not write in this space

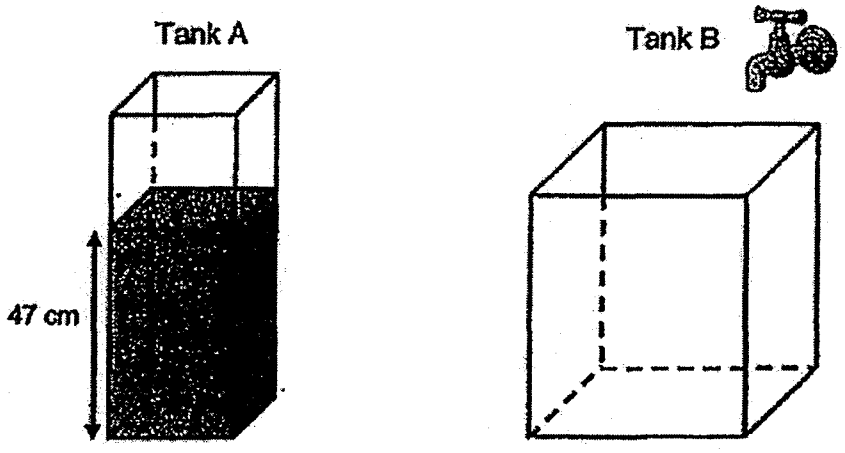
Ans: (a) _____ [2]

(b) _____ [3]

(Go on to the next page)

15. The figure below shows 2 rectangular tanks, A and B. Tank A has a base area of 30 cm^2 while Tank B has a base area of 90 cm^2.

Do not write in this space



a) Tank A contained water to a height of 47 cm. What was the volume of water in Tank A?

b) Tank B was empty at first. Alvin turned on the tap for 6 minutes, allowing water to flow at a rate of 95 cm^3/ min into Tank B. Then, he poured some water from Tank A into Tank B until the height of the water level in Tank B was the same as the height of the water level in Tank A. Find the height of the water level in Tank B.

Ans:(a) _____ [1]

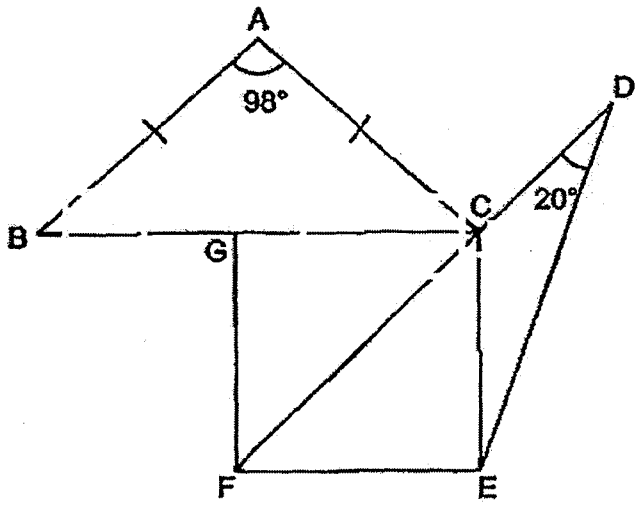
(b) _____ [4]

(Go on to the next page)

16. In the figure below, ABC is an isosceles triangle and EFGC is a square. $\angle CDE = 20°$ and $\angle BAC = 98°$ DCF is a straight line.

(a) Find $\angle FCA$.

(b) Find $\angle DEC$.



Do not write in this space

Ans: (a) _____ [2]

(b) _____ [2]

(Go on to the next page)

17. Mr Lau bought a tennis racket and a bag at discounted prices. He spent a total of $168.75 on the two items. The ratio of the amount Mr Lau paid for the tennis racket to the amount he paid for the bag was 2 : 1.

Do not write in this space

(a) Find the cost of the bag after the discount.

(b) The total discount given for the two items was $31.25. Mr Lau was given a 10% discount for the tennis racket. What was the percentage discount given for the bag?

Ans: (a) _____ [1]

(b) _____ [4]

(Go on to the next page)

18. Numbers are written in order beginning from 1 as shown in the pattern below.

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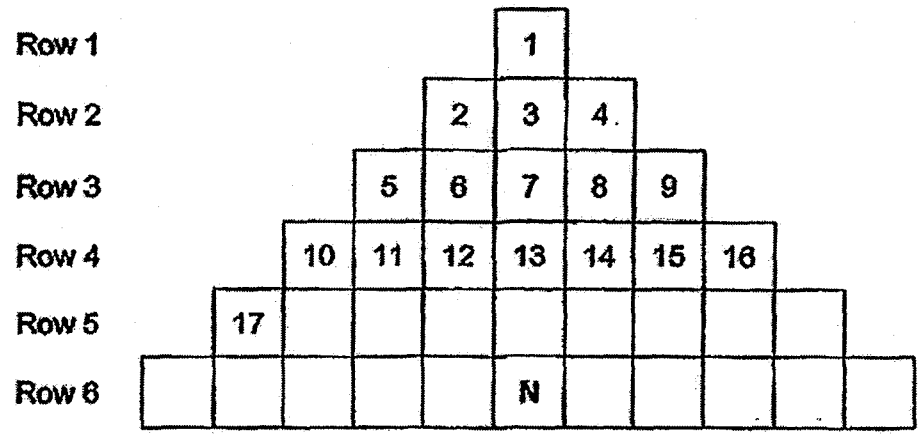

Given that the pattern continues,

(a) find the number represented by the letter N.
(b) find the greatest number in Row 8.
(c) find the number in the middle of Row 12

Ans: (a) _____ [1]

(b) _____ [1]

(c) _____ [2]

End of Paper

Setters:
Mrs Josephine Lai, Ms Grace Chan, Ms Yew Hew Mei, Mr Yip Yew Fei and Mrs Norah Idil

ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : HENRY PARK

SUBJECT : MATHEMATICS

TERM : PRELIM

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

16)50000

17)68 + 64 + 48 = 180

180 ÷ 3 = 60

18)$50 - $m

=$(50 – m)

$(50 – m) ÷ 6

= $(50-m/6)

19)$1.20 + $0.70 = $1.90

20) ½ x 13cm x 4cm = 26cm2

21)30 + 25 + 25 + 20 + 15 = 115

15 : 115

3 : 23

22)100% − 28% − 16% − 8% = 48%

=48/100 = 12/25

23)360° − 132° − 98° − 51° = 79°

24)∠180° − 86° − 44° = 50°

∠ACB = ∠DCE

∠CED→180° − 55° − 50° = 75°

25)(100cm + 4cm) x 2 = 290cm

6 x 7cm = 42cm

290cm + 42cm = 332cm

26)5/8→4m

1/8→0.8m

2→12.8m = $12\frac{8}{10}$m = $12\frac{4}{5}$m

27)∠XWU→93° − 10° = 83°

∠YXZ→180° − 83° − 65° = 32°

∠XYZ→180° − 32° − 32° = 116°

28)H : E : P

3 : 4

1 : 2

3 : 6 : 8

3u→$1.50

u→$1.50 ÷ 3 = $0.50

8u→8 x $0.50 = $4

29)40cm x 2 = 80cm

10x (80cm x 3.14)

=2512cm

30)20% →36

80% →36 x 4 = 144

144 – 69 = 75 bookmarks

Paper 2

1)¾ →3.855kg

¼ →3.855kg ÷ 3 = 1.285kg

1→1.285kg x 4 = 5.14kg

2) ¼ (2 x 22/7x 10.5) x 1¼ = 82.5

82.5 + 10.5 + 10.5 = 103.5cm

3)300/4500 x 100 = 62/3

4)85 x 3 = 255

255 – 79 – 68 = 108

5)615 + 549 = 1164

1164 – 363 = 801

801 ÷ 3 = 267

615 – 267 = 348 red pens

6)Area of square (6cm x 6cm) ÷ 2 = 18cm2

6cm ÷ 2 = 3cm

Area of circle→3.14 x 3cm x 3cm = 28.26cm2

Area of unshaded→28.26cm2 – 18cm2 = 10.26cm2

7)$24 ÷ $1.50 = 16

$28.80 + $24 = $52.80

$52.80 ÷ 16 = $3.30

$3.30 + $2.20 = $5.50

8)52cm ÷ 7cm = 7R3cm

16cm ÷ 7cm = 2R2cm

34cm ÷ 7cm = 4R6cm

7 x 4 x 2 = 56

Ans: 7cm

9)4 years later

W→(f + 4)

WF→(f + 4) x 2 = (2f + 8)

M→(2f + 8) – 1 = (2f + 7)

Now

M→(2f + 7) – 4 = (2f + 3) years old

10)∠CBD→180° – 66° / 2 = 57°

∠EDC→97° – 57° = 40°

∠FCD→180° – 40° – 110° = 30°

11)600m ÷ 30 m/min = 20 min

6.5km = 6500m

Steven speed→6500m ÷ 20 min = 325m/min

Tom speed→325m/min – 30m/min = 295m/min

12)a)16 : 6 : 5

b)150 x $0.20 = $30

13)a)$3.50 + $1.50 = $5

b)4 x $5 = $20

$53 – $20 = $33

$33 ÷ (7 + 4) = $3

$3 + $5 = $8

14)a)1 – 2/5 = 3/5

R→4/9 x 3/5 = 4/15

1 – 2/5 – 4/15 = 1/3

b)F→6/15

R→4/5

S→5/15

6u→$1200

u→$1200 ÷ 6 = $200

5u→$200 x 5 = $100

$4000 ÷ $1000 = 4 months

15)a)47cm x 30cm2 = 1410cm3

b)95cm3/min x 6min = 570cm3

1410cm3 + 570 cm3 = 1980cm3

1980cm3 ÷ (90cm2 + 30cm2) = 16.5cm

16)a) $\angle ACB \rightarrow (180^\circ - 98^\circ) \div = 41^\circ$

$\angle GCF \rightarrow 90^\circ \div 2 = 45^\circ$

$\angle FCA \rightarrow 45^\circ + 41^\circ = 86^\circ$

b) $\angle FEC \rightarrow 90^\circ$

$\angle CFE \rightarrow 90^\circ \; 2 = 45^\circ$

$\angle DEC \rightarrow 180^\circ - 90^\circ - 20^\circ - 45^\circ = 25^\circ$

17)a)u→\$168.75 ÷ 3 = \$56.25

b)TR→\$56.25 x 2 = \$112.50

90% →\$112.50

10% →\$112.50 ÷ 9 = \$12.50

Discount for bag→\$31.25 - \$12.50 = \$18.75

\$56.25 + \$18.75 - \$75

18.75/75 x 100 = 25%

18)a)(6x 5)+ 1 = 31

b)Middle number for row 8→(8 x 7) + 1 = 57

8 – 1 = 7

57 + 7 = 64

c)(12 x 11) + 1 = 133