2017 PRELIMINARY ASSESSMENT

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 23 August 2017

BOOKLET A

15 Questions
20 Marks
Duration of Paper 1 (Booklets A & B): 50 minutes

Note:

1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this booklet, you should have the following:
   (a) Page 1 to Page 6
   (b) Questions 1 to 15
6. 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 (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

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1 Round off 367.199 to the nearest hundredth.

(1) 367.19
(2) 367.20
(3) 370.199
(4) 400.199

2 Find the value of $30 - 3 \times 4 + 42 \div 6$.

(1) 11
(2) 25
(3) 26
(4) 35

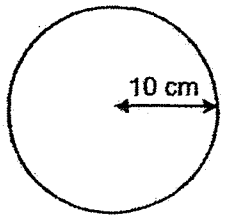
3 There are 30 marbles in Box A and 120 marbles in Box B. What is the ratio of the number of marbles in Box B to the total number of marbles in both boxes?

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

4 Which of the following is the same as 6.05 kg?

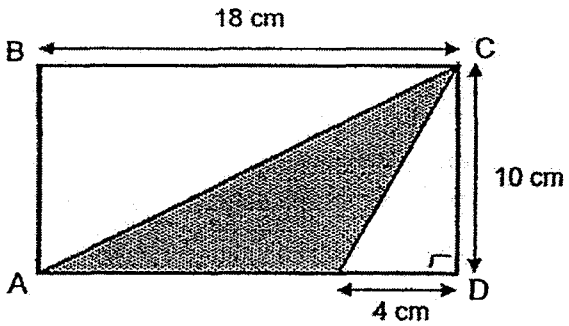
(1) 605 g
(2) 6005 g
(3) 6050 g
(4) 6500 g

5 The circle below has a radius of 10 cm. What is the circumference of the circle? (Take $\pi = 3.14$)



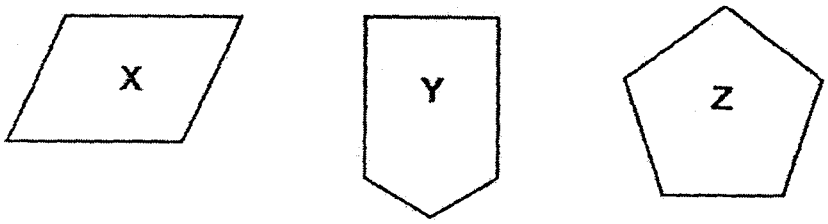
(1) 31.4 cm
(2) 62.8 cm
(3) 314 cm
(4) 1256 cm

6 In the figure below, ABCD is a rectangle. What is the area of the shaded part?



(1) 20 cm^2
(2) 40 cm^2
(3) 70 cm^2
(4) 90 cm^2

7 Which of the following shapes can be tessellated?



(1) X and Y
(2) X and Z
(3) Y and Z
(4) X, Y and Z

8 The table below shows the marks obtained by five students for their Mathematics test.

Name of students	Marks obtained
Ali	35
Brian	31
Chen Xi	42
Devi	45
Emma	27

How many student(s) obtained more than the average mark for the group?

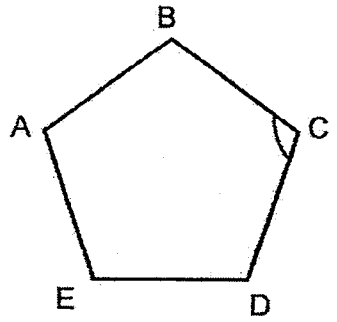
(1) 1
(2) 2
(3) 3
(4) 4

9 $\frac{9}{100} + 1\frac{2}{5} - \frac{7}{20} =$ _____

(Express your answer as a decimal.)

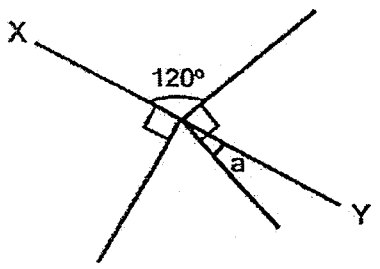
(1) 0.78
(2) 0.99
(3) 1.14
(4) 1.42

10 Figure ABCDE is a 5-sided figure which has all equal sides and angles. Find $\angle BCD$.



(1) 36°
(2) 72°
(3) 108°
(4) 144°

11 In the figure below, XY is a straight line. Find $\angle a$.

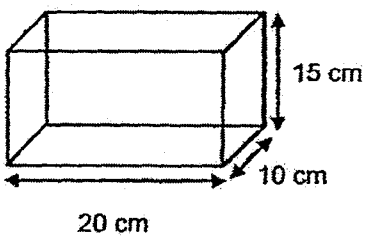


(1) 15°
(2) 30°
(3) 60°
(4) 90°

12 John drove from Town K to Town L at an average speed of 90 km/h. He left Town K at 8.45 a.m. and reached Town L at 9.15 a.m. Find the distance driven by John.

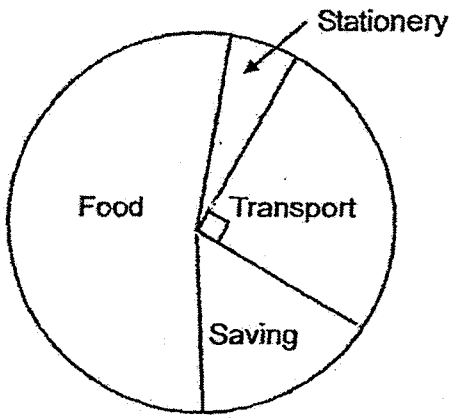
(1) 45 km
(2) 90 km
(3) 135 km
(4) 180 km

13 Tom used a piece of wire to form the outline of a cuboid 20 cm by 10 cm by 15 cm. What was the length of wire used by Tom?



(1) 45 cm
(2) 90 cm
(3) 135 cm
(4) 180 cm

14 The pie chart below shows how Jane spent her monthly allowance.



The amount she spent on transport was twice as much as the amount she saved. The amount she spent on stationery was half of the amount she saved. If she spent $180 on food, how much did she save?

(1) $20
(2) $40
(3) $60
(4) $90

15 In a class, $\frac{1}{2}$ of the students wear spectacles. $\frac{1}{3}$ of those who wear spectacles are boys and $\frac{1}{4}$ of those who do not wear spectacles are girls. What fraction of the students are girls?

(1) $\frac{11}{24}$

(2) $\frac{17}{24}$

(3) $\frac{19}{40}$

(4) $\frac{31}{40}$

2017 PRELIMINARY ASSESSMENT

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 23 August 2017

BOOKLET B

15 Questions
20 Marks

In this booklet, you should have the following:
(a) Page 7 to Page 12
(b) Questions 16 to 30

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		20
BOOKLET B		20
TOTAL		40

Parent's Signature : _____

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)

---

16 Evaluate $4\frac{1}{4} - 1\frac{5}{6}$.

(Express your answer as a mixed number in its simplest form.)

Ans: _____

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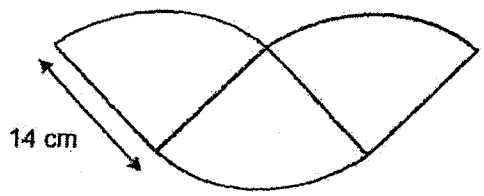
17 The figure below is made up of 3 identical quadrants with radius of 14 cm. Find the area of the figure. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm^2

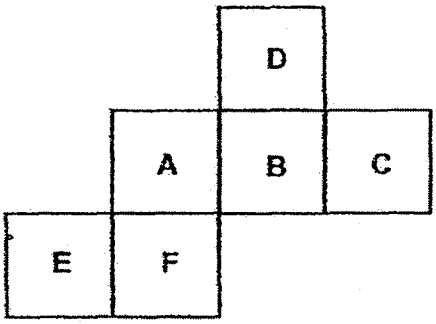
2

18 The area of each face of a cube is 49 cm^2. What is the volume of the cube?

Ans: _____ cm^3

---

19 The figure below shows the net of a cube. The net is folded to make a cube. Which letter is opposite of the letter "F"?



Ans: _____

---

20 The table below shows the time taken by four girls in a swimming competition.

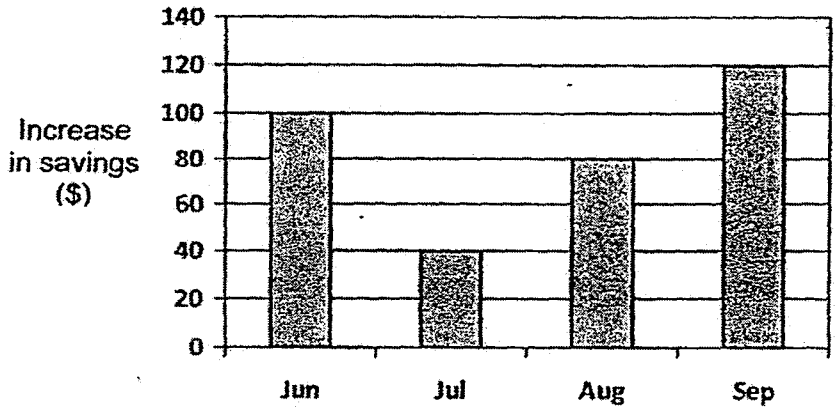
Name of girls	Time taken in seconds
Wendy	63
Jia Ling	66
Yoges	70
Zarina	68

Who is the fastest swimmer?

Ans: _____

3

Sarah records the increase in her savings at the end of every month. The bar graph below shows her records from June to September. She saved $400 at the end of September. Use the information to answer Questions 21 and 22.



21 In which month was the least increase in savings recorded?

Ans: _____

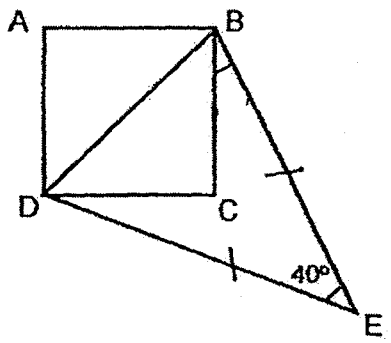
---

22 Find the amount of her savings at the end of August.

Ans: $ _____

---

23 In the figure below, ABCD is a square and BE = DE. Find $\angle CBE$.



Ans: _____ °

3

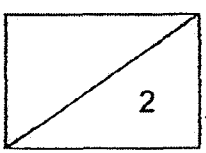
24 Town A and Town B were 360 km apart. At 7 a.m., a car started travelling from Town A to Town B at a constant speed of 80 km/h. At the same time, a lorry started travelling from Town B to Town A at a constant speed of 70 km/h. At what time did the car pass the lorry?

Ans: _____ a.m.

---

25 Peter and Siti took part in a race. When Peter had completed the race in 20 minutes, Siti had only run $\frac{5}{8}$ of the distance. Peter's average speed for the race was 60 m/min faster than Siti. What was the distance of the race?

Ans: _____ m



Questions 26 to 30 carry 2 marks each. Show your workings 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)

---

26 The digits 7, 2, 3, 9, 6 are arranged to form the greatest odd number. What is the difference between the values of the digit '9' and digit '2'?

Ans: _____

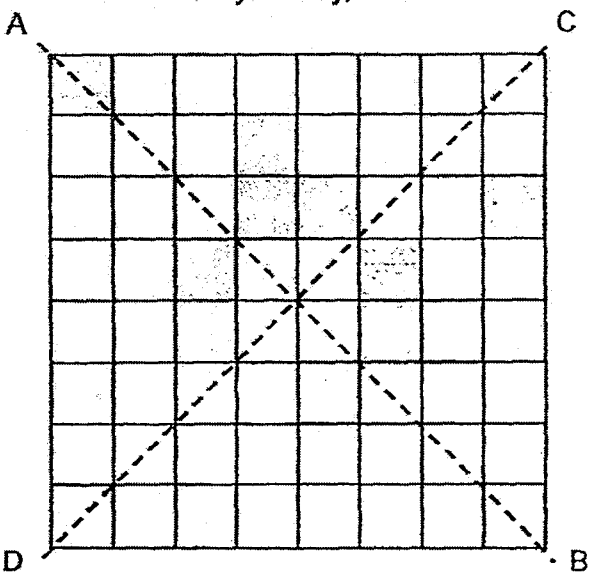
---

27 The mass of sugar in a bag is $\frac{5}{6}$ kg. It is repacked into packets of $\frac{2}{9}$ kg each. What is the maximum number of packets of sugar repacked?

Ans: _____

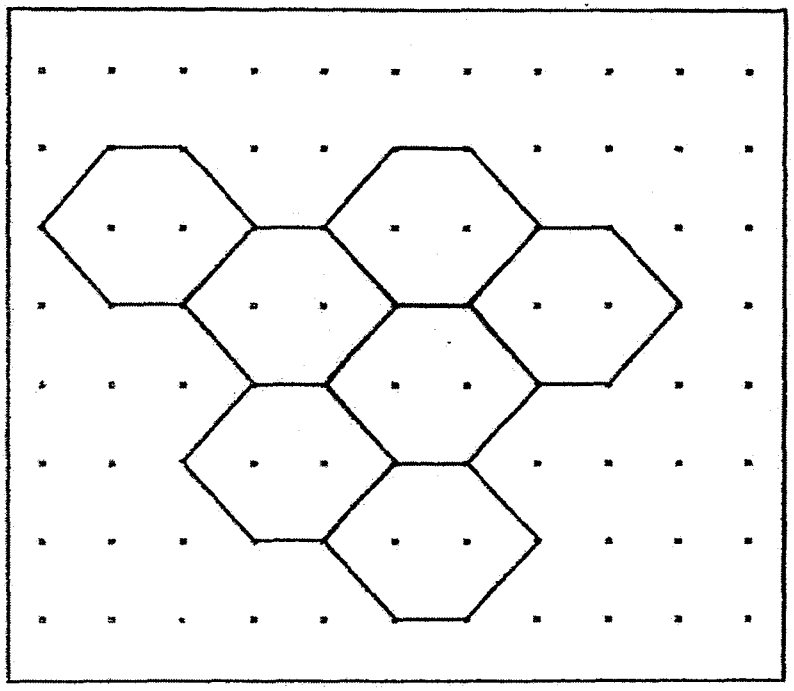
---

28 The figure below is made up of squares. Shade **three** more squares so that the figure has two lines of symmetry, AB and CD.



6

29 The pattern in the box below shows part of a tessellation. Extend the tessellation by drawing as many unit shapes as possible in the space provided within the box.



30 Max had \$8y and Nick had \$6y. Max spent twice as much as Nick. If they had \$54 left, how much did Nick spend in terms of y?

Ans: \$ _____

END OF PAPER

4

2017 PRELIMINARY ASSESSMENT

MATHEMATICS
PAPER 2

Name : _____ ( )

Class : Primary 6 /

Date : 23 August 2017

18 Questions
60 Marks
Duration of Paper 2: 1 hour 40 minutes

Note:

1. Do not open this Booklet until you are told to do so.
2. Read carefully the instructions given at the beginning of each part of the Booklet.
3. Do not waste time. If a question is difficult for you, go on to the next one.
4. Check your answers thoroughly and make sure you attempt every question.
5. In this paper, you should have the following:
   (a) Page 1 to Page 14
   (b) Questions 1 to 18
6. You are allowed to use a calculator.

MARKS

	OBTAINED	POSSIBLE
PAPER 1		40
PAPER 2		60
TOTAL		100

Parent's Signature : _____

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

---

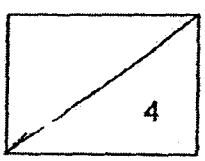
1 Gopal had 40 more cards than Wen Jie at first. Wen Jie gave 10 of his cards to Gopal. Gopal now has 4 times as many cards as Wen Jie. How many cards did Wen Jie have in the end?

Ans : _____

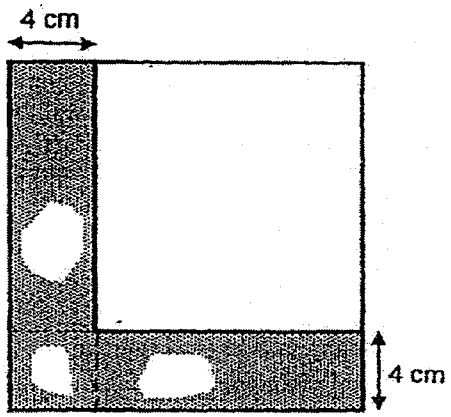
---

2 Anne wants to paste some square stickers of equal size onto a board measuring 32 cm by 24 cm. The board is to be completely covered with no overlapping or gaps between the stickers. What is the largest possible length of each side of the square sticker?

Ans : _____ cm



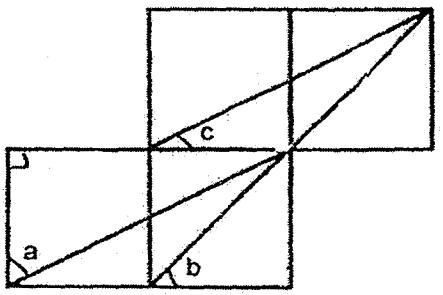
3 The figure below is made up of 2 overlapping squares. The area of the shaded part is 112 cm^2. What is the length of the smaller square?



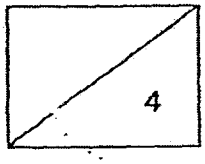
Ans : _____ cm

---

4 The figure below is made up of 4 identical squares. Find the sum of $\angle a$, $\angle b$ and $\angle c$.



Ans : _____ °



5 Keith, Lucy and Mandy shared to buy a Father's Day gift. Keith paid $2n. Lucy paid twice as much as Keith and $8 more than Mandy.

(a) Find the cost of the gift in terms of n.

(b) If n = 5, find the amount paid by Mandy.

Ans : (a) $ _____ [1]

(b) $ _____ [1]

2

For Questions 6 to 18, show your working clearly in the space below 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. (50 marks)

---

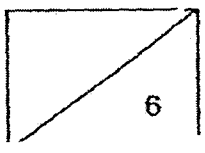
6 At a candy shop, lollipops are sold at \$0.40 each or 4 lollipops for \$1.50. What is the most number of lollipops that Miss Chan can buy with \$13?

Ans : _____ [3]

---

7 Farah bought 144 red, green and blue beads to make a necklace. The number of green beads was twice the number of blue beads. $\frac{1}{3}$ of the red beads was 18 more than the total number of green beads. How many green beads did Farah buy?

Ans : _____ [3]



8 In an event, the adults are divided equally into two groups. In Group A, the ratio of the number of men to the number of women is 4 : 1. In Group B, the ratio of the number of men to the number of women is 1 : 3. What is the ratio of the number of men in Group A to the number of women in Group B?

Ans : _____ [3]

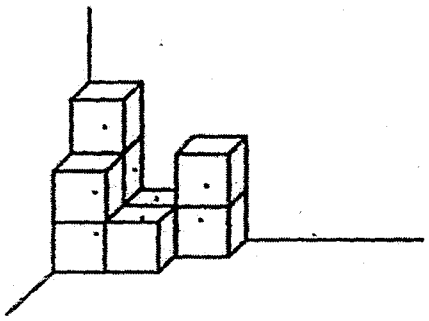
---

9 In 2016, 40% of the students in the school were girls and the rest were boys. There were 124 more boys than girls. In 2017, some boys transferred to another school, reducing the number of boys by 25%. What is the total number of students at the end of 2017?

Ans : _____ [3]

---

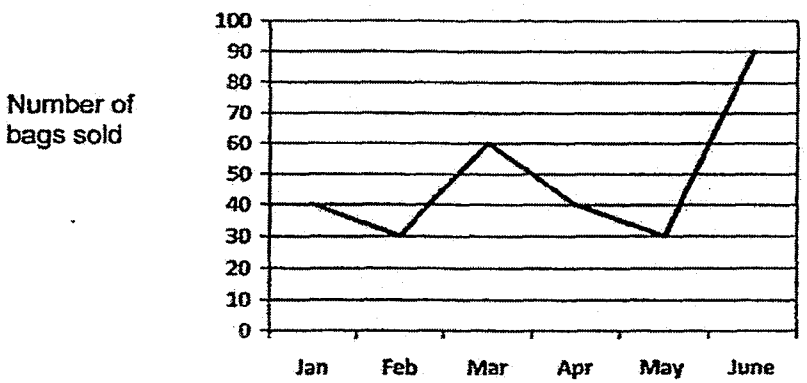
10 Susan arranges some 3-cm cubes as shown below. How many more such cubes will she need if she wants to form a bigger cube with a volume of 3375 cm^3?



Ans : _____ [3]

3

11 The line graph below shows the number of bags sold in a shop from January to June.



(a) What was the percentage increase in the number of bags sold from May to June?

(b) In order to meet the sales target of 700 bags per year, how many more bags must be sold in the second half of the year?

Ans : (a) _____ [2]

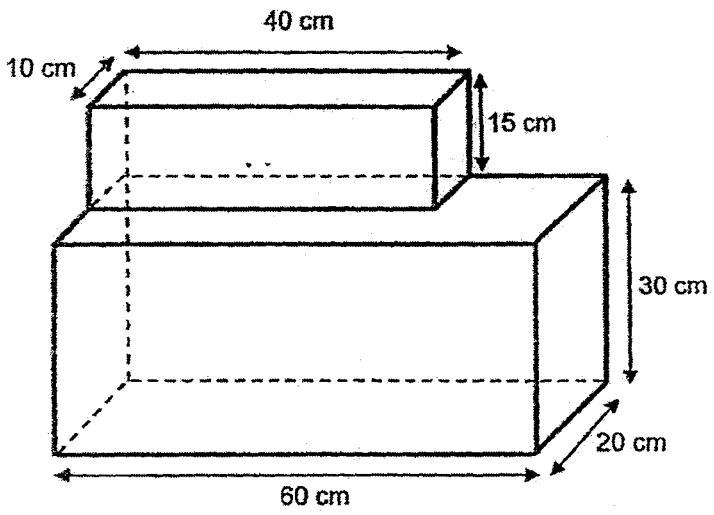
(b) _____ [2]

4

12 Miss Lim filled the container shown below with water to a height of 25 cm at first.

(a) What was the volume of water in the container at first?

(b) How much more water must Miss Lim add so that the amount of water in the end is $\frac{3}{4}$ of the capacity of the container?

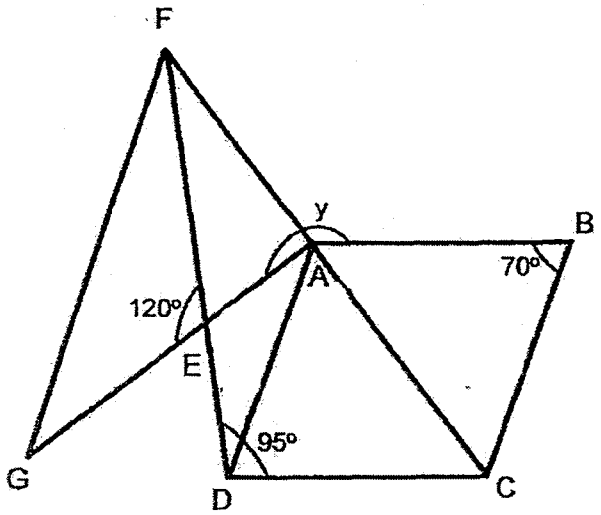


Ans : (a) _____ [2]

(b) _____ [3]

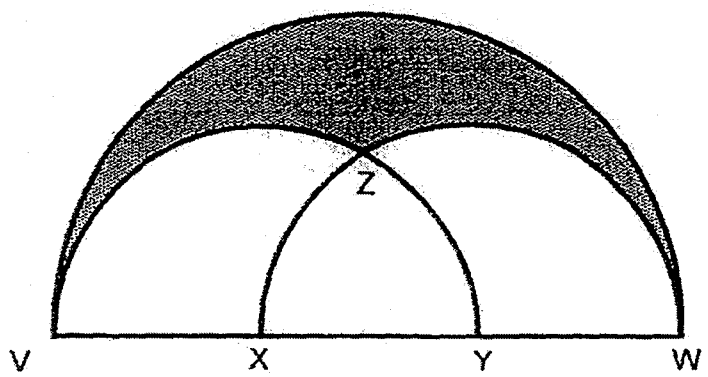
5

13 In the figure below, ABCD is a rhombus and CAF, AEG and DEF are straight lines. Find $\angle y$.



Ans : _____ [3]

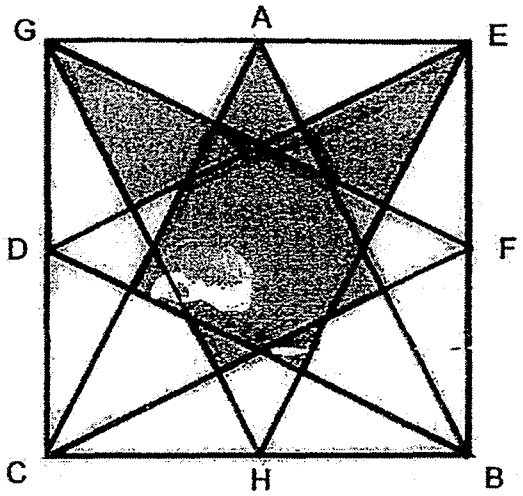
14 The figure below is made up of a big semi-circle and 2 identical smaller semi-circles. The length of VW is 18 cm and VX = XY = YW. The overlapping part of the 2 smaller semi-circles, Part XYZ, has a perimeter of 18.56 cm. Find the perimeter of the shaded part. (Take $\pi = 3.14$)



Ans : _____ [4]

4

15 The figure below is formed by drawing 4 identical isosceles triangles ABC, BDE, CFG and EGH inside a square of side 20 cm. A, D, F and H are mid-points of the sides of the square. Find the total area of the shaded parts.



Ans : _____ [4]

4

16 Tom had 60 more stamps than Jerry at first. Tom gave $\frac{1}{4}$ of his stamps to Jerry. Then Jerry gave $\frac{2}{5}$ of his stamps to Tom. Tom's uncle also gave 87 stamps to Tom. In the end the number of stamps Tom had was twice the number of stamps he had at first.

(a) Find the number of stamps Jerry gave to Tom.

(b) Find the number of stamps Tom had in the end.

Ans : (a) _____ [3]

(b) _____ [2]

5

17 Daisy brought some money for shopping. She bought 3 dresses and 2 skirts for $425 and had some money left. She wanted to buy another dress but she was short of $50. If she decided to buy another skirt instead, she would still be short of $15.

(a) How much did one dress cost?

(b) How much did Daisy bring for shopping?

Ans (a) _____ [3]

(b) _____ [2]

5

18 Mr Ong bought 120 sets of laptop. He sold 20% of them at the price he had paid for them. He sold $\frac{3}{4}$ of the remaining laptops at $850 each and the rest at a 12% discount off the selling price of $850. In the end, Mr Ong earned $3792. How much did Mr Ong pay for one laptop?

Ans : _____ [5]

END OF PAPER

5

ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : RED SWASTIKA

SUBJECT : MATHEMATICS

TERM : PRELIM

ORDER CALL :

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

16)25/12

17)462 cm2

18)343cm3

19)D

20)Wendy

21)July

22)$280

23)25°

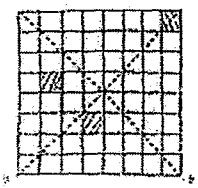
24)9:24 am

25)3200m

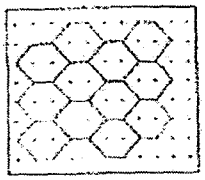
26)89980

27)3

Q28



Q29



Q30 $(\frac{14y-54}{3})$

Paper 2

Q1 $3u \rightarrow 40 + 10 + 10 = 60$
$1u \rightarrow 60 \div 3 \Rightarrow 20$

Q2 $32 \div 8 \rightarrow 4$
$32 \div 8 \rightarrow 3$
Ans $\Rightarrow$ 8 cm

Q3 $A \rightarrow 4 \times 4 = 16$
$112 - 16 = 96$
$A/B \rightarrow 96 \div 2 = 48$
Length $\rightarrow 48 \div 4 \rightarrow 12cm$

Q4 $\angle b \rightarrow 45°$
$\angle a + \angle c \rightarrow 90°$
Sum $\rightarrow 90° + 45° \Rightarrow$ ***135°***

Q5 (a) Lucy $\rightarrow 4n$
Mandy $\rightarrow 4n - 8$
Total $\rightarrow 2n + 4n + 4n - 8 \Rightarrow$ $(10n-8)

(b) $4 \times 5 - 8 \Rightarrow$ $12

Q6 Grps of 4 → $13 \div 1.50 \approx 8$
$8 \times 1.50 = 12$
$13 - 12 = 1$
$1 \div 0.40 \approx 2$
$8 \times 4 = 32$
Most no. → $2 + 32 \Rightarrow$ 34 lollipops

Q7 $9u \rightarrow 144 - (18 \times 3) = 90$
$1u \rightarrow 90 \div 9 = 10$
$G \rightarrow 2u \rightarrow 2 \times 10 = 20$ green beads

Q8

M : W	M : W
(4 : 1) x 4	(1 : 5) x 5
= 16 : 4	= 5 : 15

Ratio ⇒ 16 : 15

Q9 2016 Diff → (60 - 40)% = 20%
20% → 124
1% → 124 ÷ 20 = 6.2
Girls → 40% --> 6.2 x 40 = 248
Boys → 60% --> 6.2 x 60 = 372
boys → 75/100 x 375 = 279
→ 279 + 248 ⇒ 527 students

Q10 1 cube → 3 x 3 x 3 = 27
No. cubes needed --> 3375 ÷ 27 = 125
More --> 125 – 9 ⇒ 116 cubes

Q11 (a) Increase → 90 - 30 = 60
% increase → $\frac{60}{30} \times 100\% = 200\%$

(b) 700 – 290 ⇒ 410 bags

Q12 (a) Vol → 60 x 20 x 25 ⇒ <u>30 000 cm³</u>

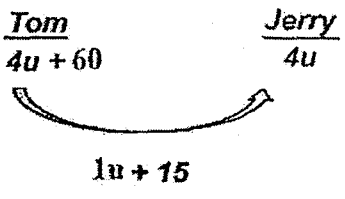
(b) Capacity → (60 x 20 x 30) + (10 x 40 x 15) = 42 000
Vol. end → $\frac{3}{4}$ x 42 000 = 31 500
Diff → 31 500 – 30 000 ⇒ <u>1500 ml</u>

Q13 ∠EDA → 95 – 70 = 25
∠EAD → 180 – 120 – 25 = 35
∠DAB → (360 – 70 – 70) ÷ 2 = 110
∠y → 360 – 110 – 35 ⇒ <u>215°</u>

Q14 VX → 18 ÷ 3 = 6
ZX = ZY → (18.56 - 6)÷ 2 = 6.28
ZV = ZW → ($\frac{1}{2}$ x 3.14 x 12) - 6.28 = 12.56
VW → $\frac{1}{2}$ x 3.14 x 18 = 28.26
P → 28.26 + 12. 56 -->53.38 cm

Q15 1 tri → $\frac{1}{2}$ x 20 x 20 = 200
20 ÷ 4 = 5
$\frac{1}{2}$ x 20 x 5 = 50
Shaded → 200 - 50 ⇒ <u>150cm2</u>

Q16 (a)



$\frac{1}{4}$ X 60 = 15 60 – 15 x 45

2u + 6

$\frac{2}{5}$ x 5u = 2u

$\frac{2}{5}$ x 15 = 6

End 5u + 51 + 87 3u + 9

So *(4u* + 60) x 2 = *5u* + 51 + 87

8u + 120 = *5u* + 138

8u – 5u = 138 – 120

3u = *18*

1u → 18 ÷ *3* = *6*

2u + 6 = *2 x 6 + 6 --> 18 stamps*

(b) 5u + 51 + *87 = 5 x 6 + 51 + 87 = 168 stamps*

Q17 (a) 50 – 15 = *35*

1D → *1u* + *35*

1S → *1u*

35 x 3 = *105*

5u → *425 - 105 = 320*

1u → *320* ÷ *5* = 64

Cost *of dress* → 64 + *35* = *$99*

(b) *99 – 50 -->49*

425 + *99 - 50 = $474*

Q18 Remaining laptops → $\frac{80}{100}$ x 120 = 96

No. sold at $850 → $\frac{3}{4}$ x 96 = 72

No. sold *(discount)* → 96 – *72 = 24*

Discounted *price* → $\frac{88}{100}$ x 850 = 748

Amt ($850 each) → 72 x 850 = *61200*

Amt ($748) → 24 x 748 = 17925

Total collected → 61200 + 17952 = 79152

Cost of 96 laptops → 79152 – 3792 = 75360

1 laptop → 75360 ÷ 96 ⇒ $785