RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2017 SEMESTRAL ASSESSMENT 1

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 4 May 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 5
   (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 Which of the following is equal to $1\frac{3}{4} + \frac{1}{2}$?

(1) $\frac{5}{4}$

(2) $\frac{9}{4}$

(3) $\frac{10}{6}$

(4) $\frac{11}{8}$

2 A sum of \$50 was shared between Ali and Ben. Ali received \$20 and Ben received the rest. What percentage of the total sum of money did Ben receive?

(1) 20%

(2) 30%

(3) 40%

(4) 60%

3 Simplify: $8m + 7 - 3m + 2$

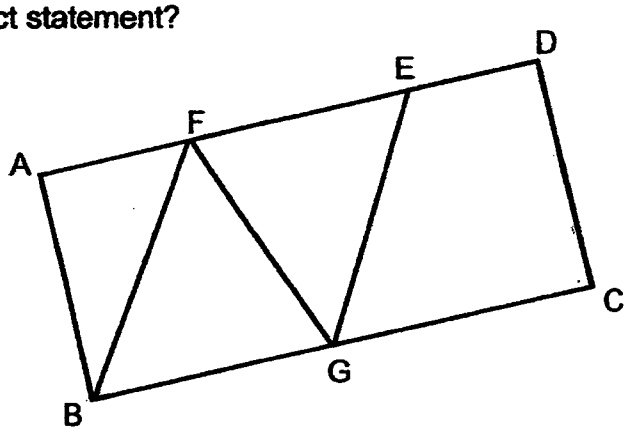
(1) $5m + 9$

(2) $5m + 5$

(3) $11m + 9$

(4) $11m + 5$

4 In the figure, ABCD is a rectangle. E and F are points on AD while G is a point on BC. BF, FG and GE are straight lines. Which of the following is a correct statement?



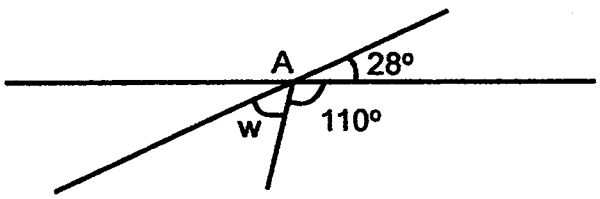
(1) BFG is an isosceles triangle.

(2) ABGE is a parallelogram.

(3) CDFG is a trapezium.

(4) BGEF is a rhombus.

5 In the figure, three straight lines meet each other at A. Find ∠w.



(1) 28°

(2) 42°

(3) 58°

(4) 82°

6 Alice took 20 minutes to complete a 1-km journey. What was her average walking speed?

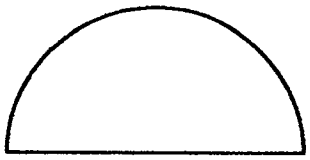
(1) 0.05 m/min

(2) 5 m/min

(3) 50 m/min

(4) 50 km/h

7 The semicircle below has a radius of 10 cm.
Find the area of the semicircle. (Take $\pi = 3.14$)



(1) 31.4 cm^2

(2) 62.8 cm^2

(3) 157 cm^2

(4) 314 cm^2

8 Circle A has a radius of 30 cm.
Circle B has a diameter of 40 cm.
Circle C has a circumference of 50π.

Which circle has the longest circumference and which circle has the shortest circumference?

	longest	shortest
(1)	A	B
(2)	A	C
(3)	B	A
(4)	C	A

9 A car travelled at a speed of 80 km/h from Town A to Town B. It reached Town B at 10 00. The distance between the two towns was 40 Km. At what time did the car leave Town A?

(1) 08 00

(2) 09 30

(3) 10 30

(4) 12 00

10 Tom and Ken shared 240 stamps in the ratio 3 : 5.
Who has more stamps and how many more?

(1) Tom has 60 more stamps.

(2) Ken has 60 more stamps.

(3) Tom has 96 more stamps.

(4) Ken has 96 more stamps.

11 Ken had some red and green marbles in the ratio 3 : 1. Ken exchanged 40 red marbles for 40 green marbles with his friend. After the exchange, there were 240 red and green marbles. What was the ratio of the number of red marbles to the number of green marbles after the exchange?

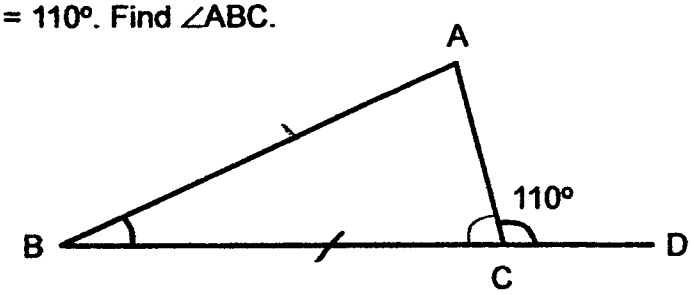
(1) 1 : 2

(2) 2 : 1

(3) 5 : 7

(4) 7 : 5

12 In the figure, ABC is an isosceles triangle, BD is a straight line and $\angle ACD = 110^\circ$. Find $\angle ABC$.



(1) 35°

(2) 40°

(3) 55°

(4) 70°

13 The total mass of 20 bags of sugar is 5 kg. Each bag of sugar has the same mass. What is the mass of each bag of sugar?

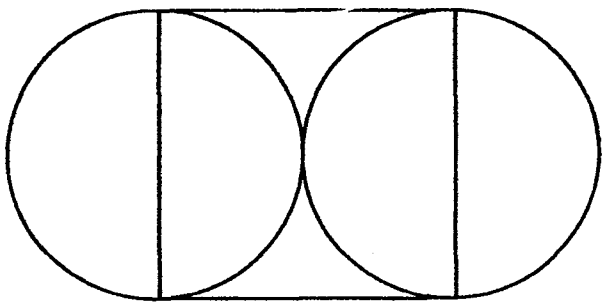
(1) 25 g

(2) 250 g

(3) 2.5 kg

(4) 4 kg

14 The figure is made up of four identical semicircles of diameters 10 cm and a square as shown. Find the perimeter of the figure in terms of π.



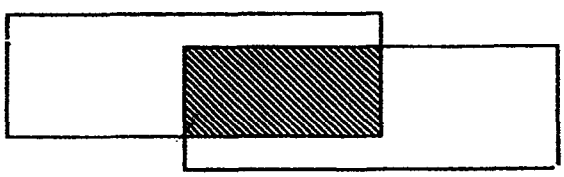
(1) $(100 + 50\pi)$ cm

(2) $(40 + 20\pi)$ cm

(3) $(20 + 20\pi)$ cm

(4) $(20 + 10\pi)$ cm

15 The figure is made up of two identical rectangles overlapping each other as shown. The overlapping parts are shaded. 40% of each rectangle is shaded. What percentage of the figure is shaded?



(1) 16%

(2) 20%

(3) 25%

(4) 40%

RED SWASTIKA SCHOOL

2017 SEMESTRAL ASSESSMENT 1

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date : 4 May 2017

BOOKLET B

15 Questions
20 Marks

In this booklet, you should have the following:
(a) Page 6 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 Find the value of $29 \div 7$ as a decimal correct to the nearest tenth.

Ans: _____

17 Find the value of $24 - 12 \div 3 \times 2 + 2$.

_____

18 Mrs Li bought 200 eggs. She used $\frac{1}{4}$ of them for baking.

How many eggs did she use for baking?

Ans: _____

19 Find the value of $\frac{8}{15} \div \frac{2}{3}$.

Ans: _____

---

20 Find the value of $\frac{5t}{3} - 3$ when $t = 9$.

Ans: _____

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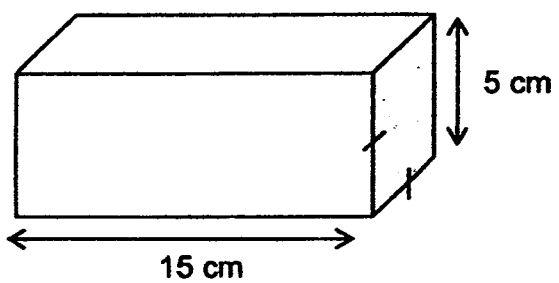
21 The wooden block has a square face which is shaded.
What is the most number of 2-cm cubes that can be cut from it?



Ans: _____

3

22 In a class, the ratio of the number of boys to the number of girls was 3 : 5. When 16 girls left the class, the ratio of the number of boys to the number of girls was 5 : 3. How many boys were there in the class?

Ans: _____

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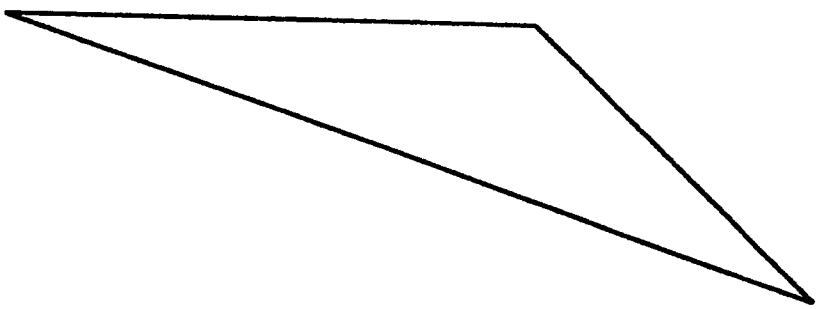
23 Study the angles inside the triangle below. Use a protractor to measure the angle which is greater than a right angle and write its value in the answer space provided.



°

Ans: _____

2

24 The sum of two numbers, X and Y, is 50. X is a multiple of 6 and Y is a multiple of 8. List the two possible values of X and Y.

Ans: X = _____ and

Ans: Y = _____

---

25 Some equivalent fractions are listed correctly below:

$$\frac{9}{12} = \frac{24}{32} = \frac{a}{8} = \frac{12}{b}$$

Find the value of a + b.

Ans: _____

2

Questions 26 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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26 The price of a table decreased by 30% to $210.
What was the price of the table before the decrease?

Ans: $_____

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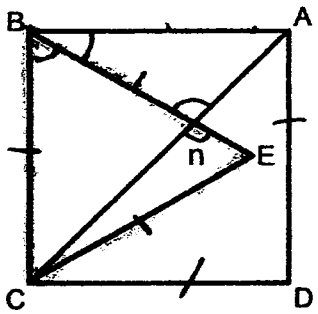
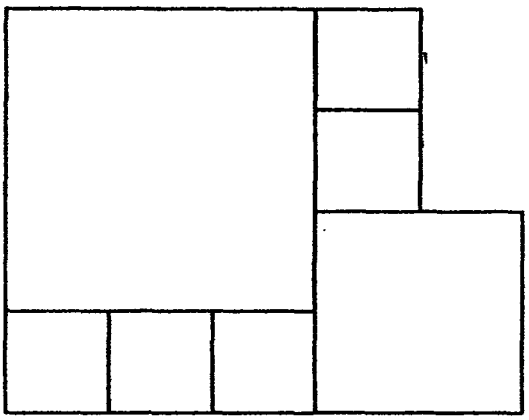
27 In the figure, ABCD is a square and BCE is an equilateral triangle.
Find ∠n.



Ans: _____ °

4

28 The figure below is made up of squares with no overlaps. The perimeter of the figure is 36 cm. What is the area of the biggest square?



Ans: _____ cm^2

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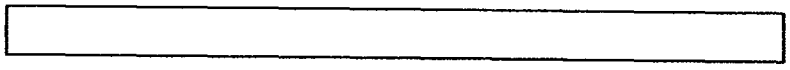
29 A wooden rod is divided into 2 equal parts as shown below.



1 part was painted blue and the other part was painted yellow.

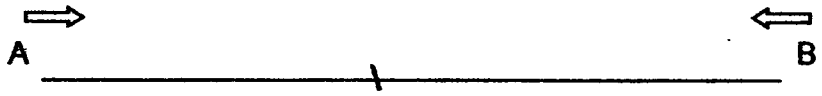
$\frac{5}{6}$ of the blue and $\frac{1}{2}$ of the yellow were then painted black.

What fraction of the rod was painted black? (Leave your answer in the simplest form.)

Ans: _____

4

30 Two toy cars, A and B, start at two opposite ends of a track but move towards each other at the same time as shown below. On average, A moves at 40 m/min and B moves at 50 m/min. After 5 minutes, A meets B. What is the distance of the track?



Ans: _____ m

END OF PAPER 1

2

2017 SEMESTRAL ASSESSMENT 1

MATHEMATICS
PAPER 2

Name : .( )

Class : Primary 6 /

Date : 4 May 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)

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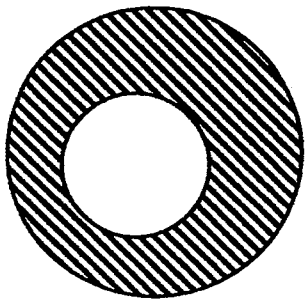
1 The figure is made up of two circles of diameters 10 cm and 20 cm as shown. Find the perimeter of the shaded parts in terms of π.



Ans: _____ cm

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2 Ali, Ben and Cindy had 330 stamps. Ben had $\frac{2}{3}$ as many stamps as Ali. Cindy had thrice as many stamps as Ben. How many stamps did Ali have?

Ans: _____

---

3 The table shows the prices of books and bags at a shop.

Per book	$u
Per bag	$(2u - 1)

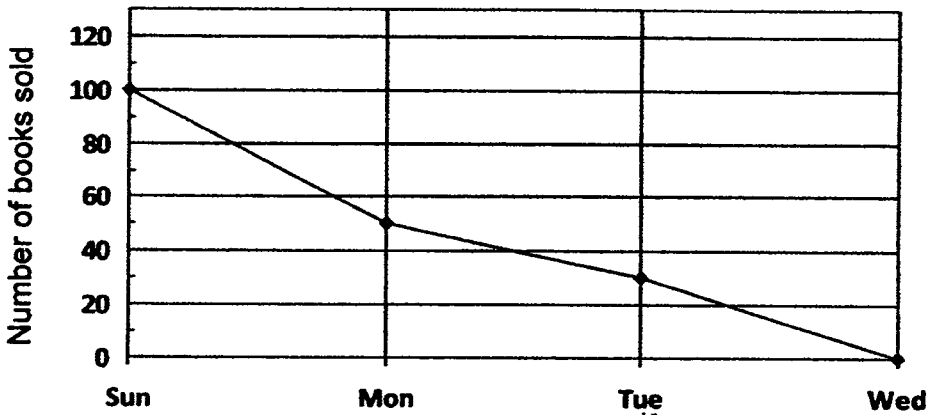
After buying 5 books and 1 bag from the shop, Jim had $3 left.
How much did Jim have at first in terms of u?

Ans: $_____

2

Refer to the graph below to answer questions 4 and 5.

A new shop had a grand opening sale that offered 200 books at 20% discount over 4 days. The line graph below shows the number of books sold at a discount from Sunday to Wednesday.



4. What is the average number of books sold from Sunday to Wednesday?

Ans: _____

---

5 During the sale, the discounted price of each book was $60. What was the total amount of money that the shop had lost due to the discount over the four days?

Ans: $_____

4

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)

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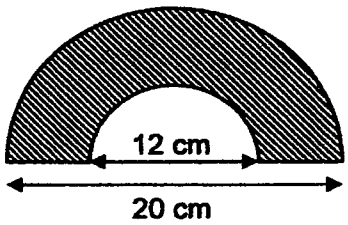
6 The figure is made up of two semi-circles of diameters 12 cm and 20 cm. Find the area of the shaded part correct to 1 decimal place. (Take $\pi = 3.14$)



Ans: _____ [3]

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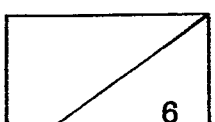
7 Thomas had some 20-cents coins and 50-cents coins in the ratio 2 : 5. The total value of all the coins was $87. How many coins did he have altogether?

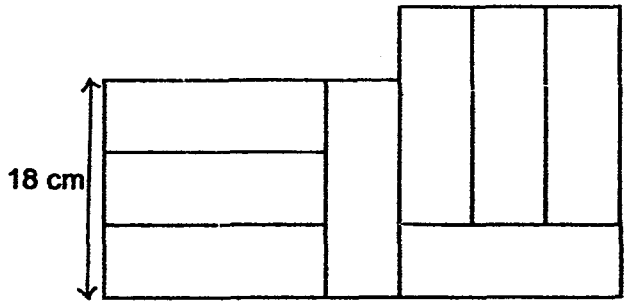
Ans: _____ [3]



8 The figure below is made up of identical rectangles.

(a) Find the area of the figure.

(b) Find the perimeter of the figure.

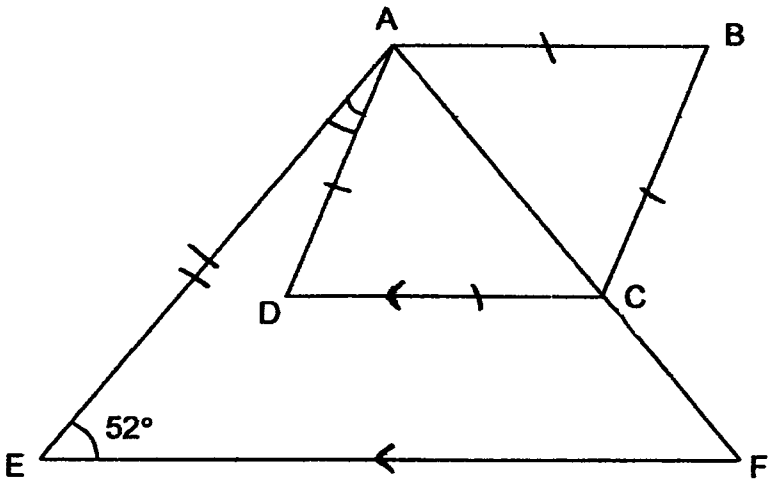


Ans: (a) _____ [1]

(b) _____ [2]

3

9 In the figure below, not drawn to scale, ABCD is a rhombus, AE = AF, CD // FE and ∠AEF = 52°. Find ∠EAD.

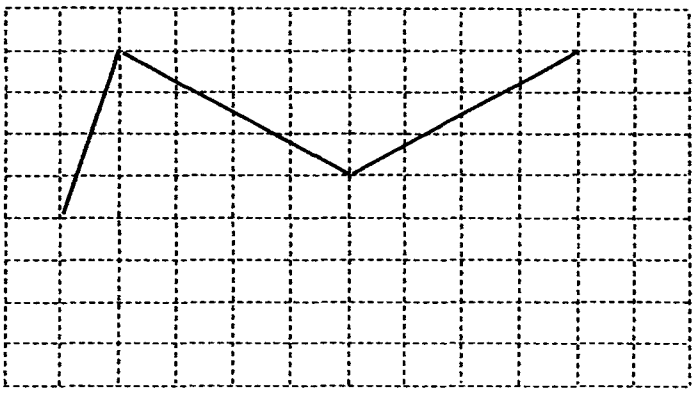


Ans: _____ [3]

10 On the grid below, two sides of a parallelogram are drawn.

(a) Draw another two lines to complete the parallelogram. [1]

(b) Draw another parallelogram such the resulting figure is symmetrical. [2]



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11 After saving 25% of his weekly allowance, Dan spent 45% of the remainder on food and still had $132 left. How much was his weekly allowance?

Ans: _____ [3]

---

12. Ann has a roll of ribbon for decorating some gifts. If she cuts 1.2 m for each gift, there is 0.4 m of ribbon left. If she cuts 1.5 m for each gift instead, she will need another 11 m of ribbon.

(a) How many gifts does she have?

(b) How much ribbon does she have? Give your answer in m.

Ans: (a) _____ [2]

(b) _____ [2]

4

13. John had 275 red and blue marbles at first. John gave away $\frac{2}{5}$ of the red marbles and $\frac{3}{8}$ of the blue marbles. In the end, there were 170 marbles left. How many red marbles did John have at first?

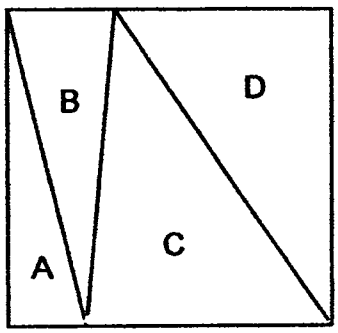
Ans: _____ [4]

4

14. The figure below shows a square that is divided into 4 triangles A, B, C and D. The area of B is $\frac{2}{3}$ the area of C. The area of D is $\frac{3}{4}$ the total area of B and C. The area of A is $\frac{1}{6}$ of the area of the square.

(a) Find the ratio of the area of A to the area of B.

(b) What fraction of the square is D?



Ans: (a) _____ [2]

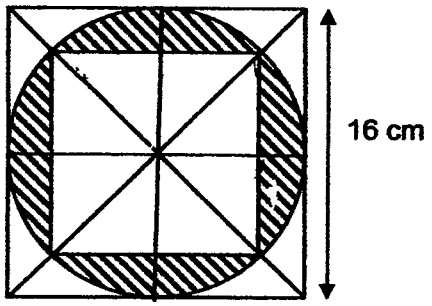
(b) _____ [2]

4

15. The figure below is made up of a circle and two squares. The side of one of the squares is 16 cm as shown.

(a) Find the area of the small square.

(b) Find the area of the shaded parts. (Take $\pi = 3.14$)



Ans: (a) _____ [2]

(b) _____ [3]

16 Edmund took 2 hours to travel $\frac{3}{5}$ of a journey at an average speed of 90 km/h. He travelled at an average speed of 100 km/h to complete the remaining journey.

(a) What was distance of the remaining journey?

(b) How many minutes did he take to cover the whole journey?

Ans: (a)_____ [2]

(b)_____ [3]

5

17 Ying used sticks to form figures that follow a pattern. The first four figures are shown below.

Figure 1 Figure 2 Figure 3 Figure 4

(a) The table below shows the number of sticks used for each figure. **Complete the table for Figure 5 and Figure 6.** [1]

Figure Number	Number of rectangles	Number of sticks used
1	2	5
2	4	9
3	6	13
4	8	17
5	10	
6	12	

(b) How many sticks would he use for Figure 40?

(c) Ling had only 300 sticks. At most, how many rectangles can she form?

Ans: (b) _____ [2]

(c) _____ [2]

5

18 At first, Lynn had a sum of money to spend for 3 days. She reserved $78 for day 1 and 25% of the remainder for day 2. She kept the remaining amount for the third day and it was 36% of the sum of money at first. After planning, she decided to transfer some money from day 1 to day 2 so that the budget for day 2 is the same as day 3. How much is the transfer?

Ans: _____ [5]

END OF PAPER 2

YEAR : 2017
LEVEL : PRIMARY 6
SCHOOL : RED SWASTIKA SCHOOL
SUBJECT : MATHEMATICS PAPER 1
TREM : SEMESTRAL ASSEMENT (1)

BOOKLET A

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

BOOKLET B

Q16. $4.14 \approx 4.1$
Ans: 4.1

Q17. $24 - 12 \div 3 \times 2 + 2$
$= 24 - 4 \times 2 + 2$
$= 24 - 8 + 2$
$= 16 + 2$
$= 18$
Ans: 18

Q18. 1u $\longrightarrow$ $200 \div 4 = 50$
Ans : 50

Q19. $\frac{8}{15} \div \frac{2}{3}$
$= \frac{8}{15} \times \frac{3}{2}$
$= \frac{24}{30}$
$= \frac{8}{10}$
$= \frac{4}{5}$
Ans : $\frac{4}{5}$

Q20. $5 \times 9 = 45$
$\frac{45}{3} - 3$
$= 15 - 3$
$= 12$
Ans : 12

Q21. $15 \div 2 \approx 7$
$5 \div 2 \approx 2$
$5 \div 2 \approx 2$
No. cubes $\longrightarrow 7 \times 2 \times 2 = 28$
Ans : 28

Q22. Before
B $\longrightarrow$ $3u \times 5 = 15u$
G $\longrightarrow$ $5u \times 5 = 25u$

$(25 - 9)u \longrightarrow 16$
$1u \longrightarrow 16 \div 16 = 1$
$15u \longrightarrow 15 \times 1 = 15$

After
B $\longrightarrow$ $5u \times 3 = 15u$
G $\longrightarrow$ $3u \times 3 = 9u$

Ans : 15

Q23. Ans : 136^0

Q24. X $\longrightarrow$ 6, 12, 18, 24, 30, 36
Y $\longrightarrow$ 8, 16, 24, 32, 40

Ans : X = 18 and
Ans : Y = 32

Q25. $\frac{24}{32} = \frac{6}{8} = \frac{12}{16}$
$24 \div 4 = 6$
$8 \times 2 = 16$
$6 + 16 = 22$

Ans : 22

Q26. 70% = 210
1% = $210 \div 30 = 7$
100% = $3 \times 100 = 300$

Ans : 300

Q27. Angle CBE $\rightarrow$ 60
Angle ABE $\rightarrow$ $90 - 60 = 30$
Angle BAC $\rightarrow$ 45
$180 - 30 - 45 = 105$
Angle n $\rightarrow$ 105

Ans : 105°

Q28. $18u \rightarrow 36$

$1u \rightarrow 36 \div 18 = 2$

$3u \rightarrow 2 \times 3 = 6$

$A \rightarrow 6 \times 6 = 36$

Ans : $36cm^2$

Q29. $\frac{5}{6} \times \frac{1}{2} = \frac{5}{12}$

$\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$

Total $\rightarrow \frac{5}{12} + \frac{1}{4} = \frac{5}{12} + \frac{3}{12} = \frac{8}{12} = \frac{2}{3}$

Ans : $\frac{2}{3}$

Q30. $\rightarrow$ $\leftarrow$

A ——————————|—————————— B

S → 40m/min meet S → 50m/min

$50 + 40 = 90$

$D \rightarrow 90 \times 5 = 450$

Ans : 450m

End of Paper

YEAR : 2017
LEVEL : PRIMARY 6
SCHOOL : RED SWASTIKA SCHOOL
SUBJECT : MATHEMATICS PAPER 2
TREM : SEMESTRAL ASSEMENT (1)

PAPER 2

Q1. C(big)→ π X 20 = 20π
C(small)→ π X 10 = 10π
Total→ 30π

Ans : 30π

Q2. B → 2u
A → 3u
C → 2 X 3
= 6u
} 330
11u → 330
1u → 330 ÷ 11 = 30
A/3u → 30 X 3 = 90

Ans : 90

Q3. 5 books → u X 5 = 5u
1 bag → 2u – 1
Total → 5u + 2u – 1 + 3 = 7u + 2

Ans : $(7u + 2)

Q4. Total → 100 + 50 + 30 + 0
= 180
Ave → 180 ÷ 4 = 45

Ans : 45

Q5. 80% → $60
1% → 60 ÷ 80 = 0.75
20% → 0.75 X 20 = $15 (discount)
Cost → 15 X 180 = $2700

Ans : $2700

Q6. Big semi → $\frac{1}{2}$ X 3.14 X 10 X 10 = 157
Small semi → $\frac{1}{2}$ X 3.14 X 6 X 6 = 56.52
Shaded → 157 – 56.52 = 100.48
100.48 ≈ 100.5

Ans : 100.5cm^2

Q7.

	Amt	
20¢ → 2u	X 0.20 = 0.4u	87
50¢ → 5u	X 0.50 =2.5u	

87 → 2.9u

1u → 87 ÷ 2.9 = 30

2u + 5u = 7u

7u → 30 X 7 = 210

Ans : 210

Q8. a) 1L → 18

1B → 18 ÷ 3 = 6

1 rectangle → 18 X 6 = 108

8 rectangles → 108 X 8 = 864

b) P → 18 X 6 + 6 X 4 = 132cm

Ans : a) $864cm^2$

b) 132cm

Q9. Angle DCF → 180 – 52 = 128

Angle DCA → 180 – 128 = 52

Angle DAC → 52

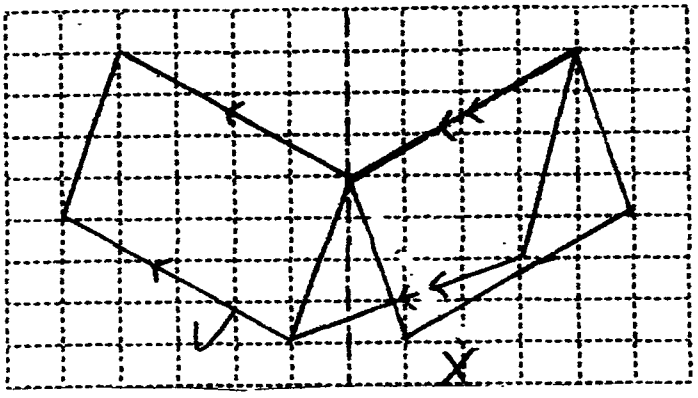
Angle EFC → 52

Angle EAF → 182 – 52 -52 = 76

Angle EAD → 76 – 52 = 24

Ans : 24^0

Q10.



Q11. Remainder → 100% - 25% = 75%

Food → $\frac{45}{100}$ X 75% = 33.75%

$132 → (100 – 25 – 33.75) % = 41.25%

1% → $\frac{132}{41.25}$ = 3.2

100% → 3.2 X 100 = 320

Ans : $320

Q12. Let number of gifts be y

a) $1.2y + 0.4 = 1.5y - 11$

$0.4 + 11 = 1.5y - 1.2y$

$11.4 = 0.3y$

$y = 11.4 \div 0.3 = 38$

b) Amt ribbon → $1.2y + 0.4$

$= 1.2 \text{ X } 38 + 0.4$

$= 46$

Ans : a) 38

b) 46m

Q13. Let the number of red and blue marbles be R and B respectively.

X5 (5u (R) + 8u (B) = 275)

25u (R) + 40u (B) = 1375

X8 (3u (R) + 5u (B) = 170)

= (24u (R) + 5u (B) = 1360)

1u (R) = 15

5u (R) = 15 X 5

= 75

Ans : 75

Q14. a)

B	:	C	:	B + C	:	D	
(2	:	3	:	5	:		) X 4
				(4	:	3	) X 5
= 8	:	12	:	20	:	15	

B + C + D = 8 + 12 + 15 = 35u

$\frac{5}{6} \rightarrow 35u$

$A(\frac{1}{6}) \rightarrow 35 \div 5 = 7u$

So A : B = 7 : 8

b) Sq → 35 + 7 = 42u

Fraction → $\frac{15}{42} = \frac{5}{14}$

Ans : a) 7 : 8

b) $\frac{5}{14}$

Q15. a) Area A → $\frac{1}{2}$ X 8 X 8 = $32cm^2$

Area small sq → 4 X 32 = $128cm^2$

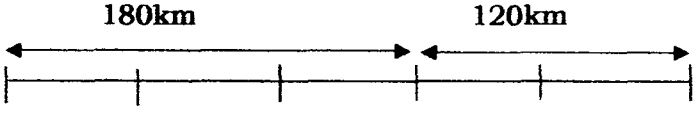
b) Area C → 3.14 X 8 X 8 = $200.96cm^2$

Shaded area → 200.96 – 128 = $72.96cm^2$

Ans : a) $128cm^2$

b) $72.96cm^2$

Q16.



Edmund

T → 2h

S → 90km/h

Edmund

S → 100km/h

a) D 1st → 90 X 2 = 180km/h

3u → 180km

1u → 180 ÷ 3 = 60km

2u → 60 X 2 = 120km

b) T 2nd → 120 ÷ 100 = $1\frac{1}{5}$h

Total T → $1\frac{1}{5}$ + 2 = $3\frac{1}{5}$h

$3\frac{1}{5}$h ↔ 192min

Ans : a) 120km

b) 192min

16 + 11 = 21

Q17. a) 12 + 13 = 25

b) no. sticks → 40 X 4 + 1 = 161

c) 300 – (Fig) X 4 + 1

300 – 1 = Fig X 4

299 = Fig X 4

Fig → 299 ÷ 4 = 74R3

So at most Fig 74 + 1 rec.

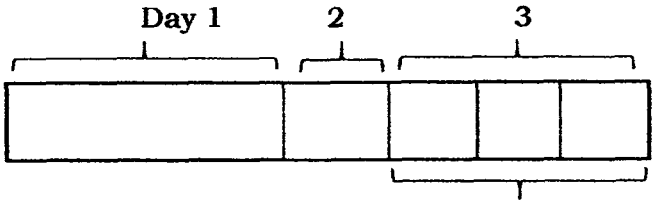
No. rectangles = (74 X 2) + 1 = 149

Ans : a) 25

b) 161

c) 149

Q18.



3u → 36% (Day 3)

1u → 36 ÷ 3 = 12% (Day 2)

Day 1 → 100% - 36% - 12% = 52%

Day 1 → 52% → $78

1% → 78 ÷ 52 = $1.50

Day 3 → 36% → 36 X 1.5 = $54

Day 2 → 12 X 1.5 = $18

Transfer → 54 – 18 = $36

Ans : $36

End of Paper