RED SWASTIKA SCHOOL

2018 SEMESTRAL ASSESSMENT 1

MATHEMATICS
PAPER 1

Name : _____ ( )

Class : Primary 6 / _____

Date :

BOOKLET A

Questions **1** to **10** carry 1 mark each. Questions **11** to **15** carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4) and shade your answer on the Optical Answer Sheet. (20 marks)

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1 Find the value of $2y - 5 + 9y$ when $y = 7$.

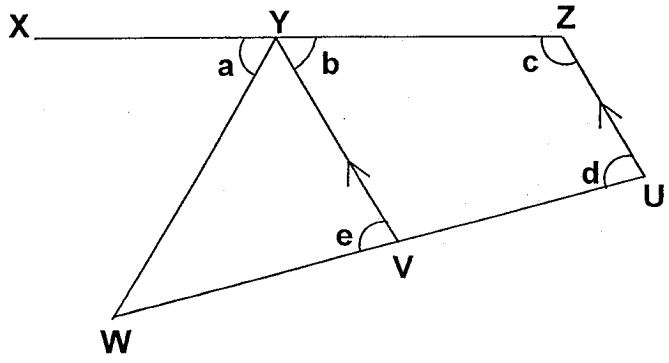
(1) 18

(2) 20

(3) 72

(4) 82

2 In the figure below, not drawn to scale, YV is parallel to ZU. XYZ and WVU are straight lines.



Which one of the following statements is true?

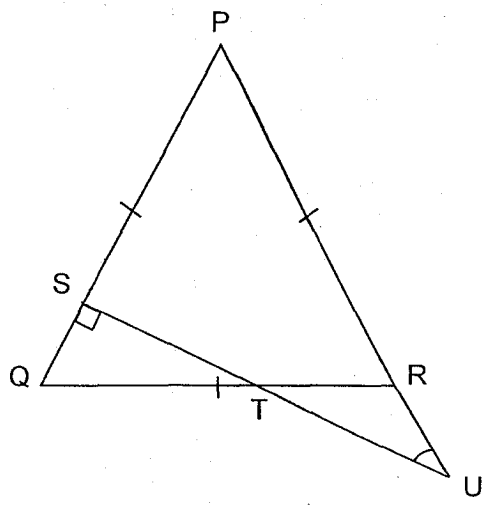
(1) $\angle a + \angle e = 180°$

(2) $\angle c + \angle d = 180°$

(3) $\angle d + \angle e = 180°$

(4) $\angle b + \angle c = 180°$

3 PQR is an equilateral triangle. Lines PRU and STU are straight lines. Find $\angle$ PUT.



(1) 30°

(2) 60°

(3) 90°

(4) 120°

4 Find the value of $2 \div \frac{3}{4}$.

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

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

(3) $\frac{3}{8}$

(4) $\frac{8}{3}$

5 Team A has bags of recyclable materials weighing 20 kg. Team B has bags of recyclable materials which is 4 kg lighter. What is the ratio of Team A's mass of recyclable materials to Team B's mass of recyclable materials?

(1) 1 : 5

(2) 5 : 1

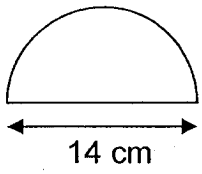
(3) 5 : 4

(4) 4 : 5

6 What is 30% of 2 kg?

(1) 600 g
(2) 60 g
(3) 6 g
(4) 0.6 g

7 Find the perimeter of a semicircle with a diameter of 14 cm.
(Take $\pi = \frac{22}{7}$)



(1) 22 cm
(2) 36 cm
(3) 44 cm
(4) 58 cm

*Use the information below to answer questions **8** and **9**.*

At 0830, Ben started cycling at 20 km/h from his home to his school which was 10 km away.

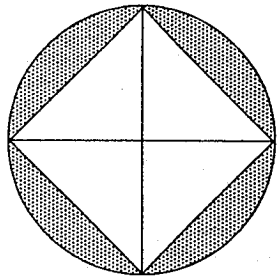
8 What time did he reach school?

(1) 0840
(2) 0850
(3) 0900
(4) 0920

9 After leaving school, Ben cycled back along the same route and took 40 minutes to reach home. What was his average speed for the journey home?

(1) 10 km/h
(2) 15 km/h
(3) 20 km/h
(4) 25 km/h

10 In the figure below, a square lies within a circle. The diameter of the circle is 14 cm. Find the total area of the shaded parts. (Take $\pi = \frac{22}{7}$)



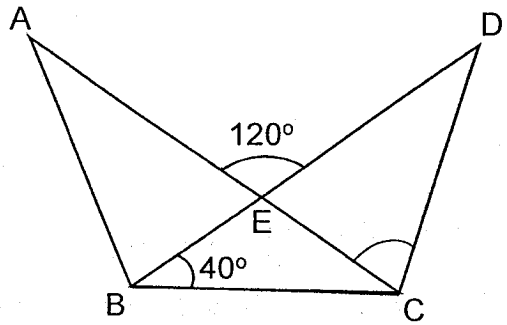
(1) 54 cm^2

(2) 56 cm^2

(3) 154 cm^2

(4) 252 cm^2

11 In the figure AEC and BED are straight lines. AB = BC = CD. Find $\angle ECD$.



(1) 120°

(2) 100°

(3) 80°

(4) 60°

12 Some teachers and students went on an overseas trip to Malacca. There were 2 teachers with each group of 15 students. A total of 60 students went for the trip. What is the ratio of the total number of teachers who went for the trip to the total number of all the teachers and students who went for the trip?

(1) 4 : 60

(2) 4 : 68

(3) 8 : 60

(4) 8 : 68

13 Liz is 8 years old now. In 7 years time, the total age for Liz and her mother will be 62. How old is Liz's mother now?

(1) 40

(2) 47

(3) 48

(4) 55

14 The mass of an empty box is 500 g. After packing some toys into the box, its total mass is increased by 55%. How heavy is the box with toys?

(1) 555 g

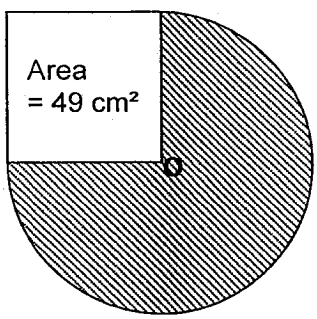
(2) 725 g

(3) 750 g

(4) 775 g

15 In the figure below, not drawn to scale, O is the centre of the circle. Find the perimeter of the shaded part if the area of the square is 49 cm^2.

(Take $\pi = \frac{22}{7}$)



(1) 44 cm

(2) 47 cm

(3) 115.5 cm

(4) 154 cm

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)

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16 Study the figures below. Which one of the following figures below has the dotted line as its line of symmetry?

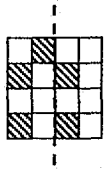

Figure A

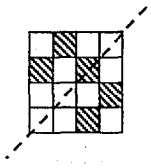

Figure B

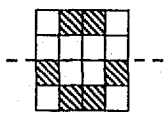

Figure C

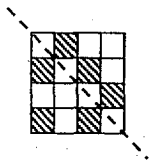

Figure D

Ans: _____

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17 Express 158 minutes in hours and minutes.

Ans: _____ h _____ min

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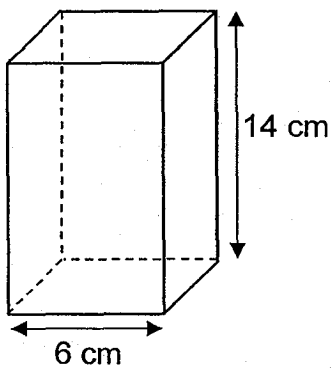
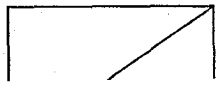
18 The cuboid shown has a square base. Find its volume.



Ans: _____ cm^3



19 Bin Wee has some twenty-cent and fifty-cent coins. The total value of all his coins is $24. How many coins does he have altogether if he has 6 more fifty-cent coins than twenty-cent coins?

Ans: _____

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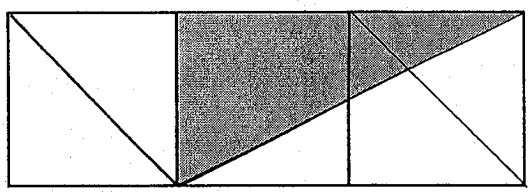
20 The figure is made up of three squares. What fraction of the whole figure is shaded? (Give your answer in its simplest form.)



Ans: _____

Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

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21 A bag contains orange, pink and white strings. $\frac{1}{4}$ of the strings is orange. $\frac{5}{8}$ of the strings is pink. What fraction of the strings in the bag is white?

Ans: _____

---

22 Zhi Min gave $\frac{2}{5}$ of a pizza to his sister. He gave the remaining pizza equally to his 6 friends. What fraction of the whole pizza did each of his friends receive? (Give your answer in the simplest form.)

Ans: _____

---

23 18 out of a class of 40 students wore caps on a class excursion. What percentage of the class of students did **not** wear cap?

Ans: _____%

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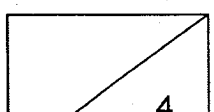
24 A wheel of radius 28 cm made 4 complete turns. What is the distance it travelled? (Take $\pi = \frac{22}{7}$)

Ans: _____cm



25 Kimmy bought (g + 5) tickets on Monday. She bought g more tickets on Thursday than on Monday. In total, she bought 46 tickets on both days. Find the value of g.

Ans: _____

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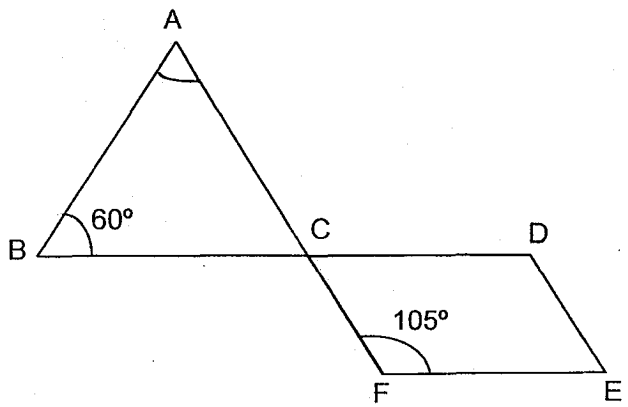
26 In the figure shown, BCD and ACF are straight lines and CDEF is a parallelogram. $\angle ABC = 60^\circ$ and $\angle CFE = 105^\circ$. Find $\angle BAC$.



Ans: _____ °

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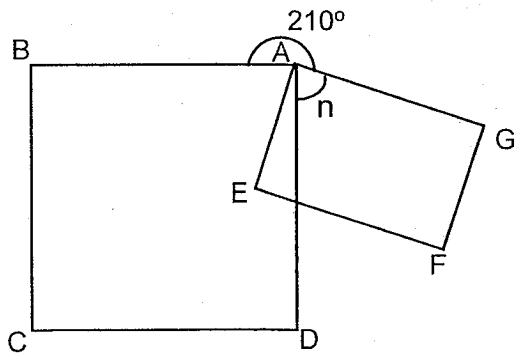
27 In the figure, ABCD is a square and AEFG is a rectangle. $\angle BAG = 210^\circ$. Find $\angle n$.



Ans: _____ °

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28 A fish tank containing 320 ml of water is $\frac{2}{3}$ full. How much more water is needed for the fish tank to be $\frac{3}{4}$ full?

Ans: _____ ml

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29 The ratio of the breadth of a rectangle to its length is 3 : 7. Its perimeter is 80 cm. Find its breadth.

Ans: _____cm

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30 Mr Singh who was travelling at an average speed of 80 km/h took 15 minutes to complete 50% of his journey. What was the total distance of his journey?

Ans: _____km

END OF PAPER 1

RED SWASTIKA SCHOOL

2018 SEMESTRAL ASSESSMENT 1

MATHEMATICS
PAPER 2

Name : _____ ( )

Class : Primary 6 /___

Date :

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

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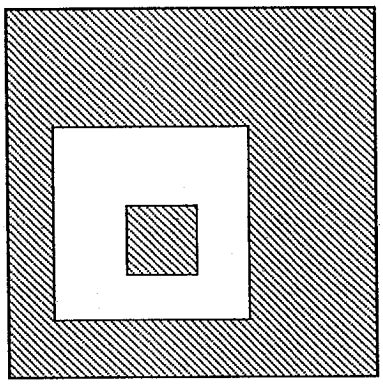
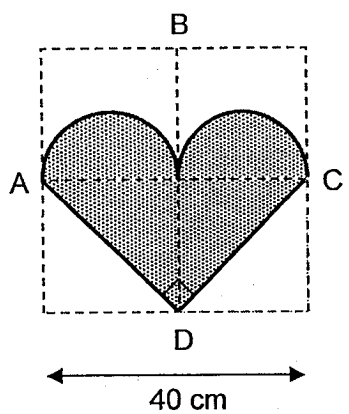
1 The figure is made up of three squares. The areas of the squares are in the ratio 1 : 4 : 16. Bala shaded some parts of the figure as shown. Find the ratio of the area of the unshaded part to the area of the shaded part.



Ans: _____

---

2 The shaded figure below is made up of 2 small semicircles and 1 right-angled triangle. It lies within a square of side 40 cm. A, B, C and D are midpoints on the sides of the square. Find the area of the shaded figure. (Take $\pi = 3.14$)



Ans: _____ cm^2

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3 A pencil case costs $2 more than a file. The total cost of 4 such pencil cases is $k.

(a) Express the cost of 12 such pencil cases in terms of k.

(b) Express the cost of a file in terms of k.

Ans: (a) $_____

(b) $_____

4 There were 300 swimmers in a beginners group. 60% of them were boys. Some boys left the beginners group to join the advanced group. The percentage of the boys remaining in the beginners group dropped to 20%. How many boys left to join the advanced group?

Ans: _____

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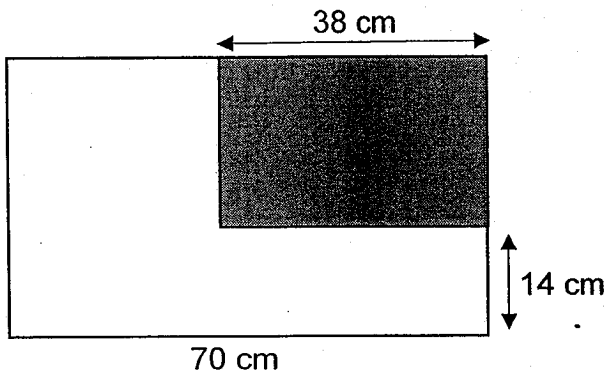
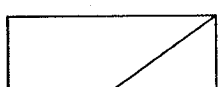
5 The area of the shaded part is 988 cm^2. Find the perimeter of the unshaded part.



Ans: _____ cm



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

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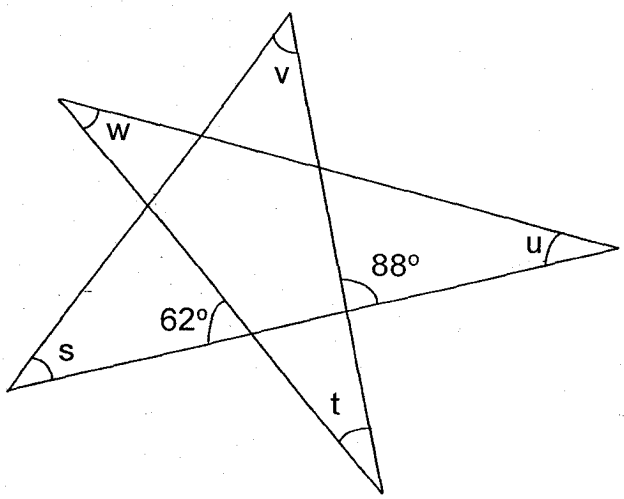
6 The diagram below is made up of straight lines.

(a) Find ∠t.

(b) Find the sum of ∠s, ∠u, ∠v and ∠w.



Ans: (a) _____ [1]

(b) _____ [2]

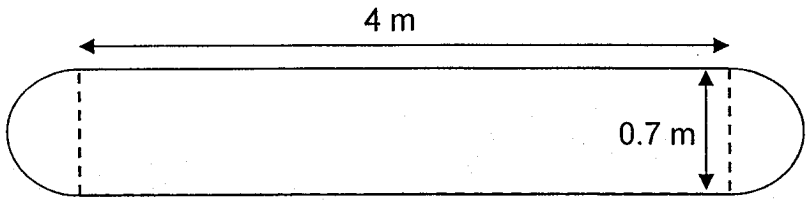
---

7 The mass of A is $\frac{2}{3}$ of the mass of B. The mass of C is $\frac{1}{2}$ of the mass of B. Their total mass is 338 kg. Find the mass of C.

Ans: _____ [3]

---

8 A banner is made up of a rectangle and two identical semicircles. The length of the rectangle is 4 m and the diameter of each semicircle is 0.7 m. Find the perimeter of the banner, rounded off to one decimal place. (Take $\pi = 3.14$)



Ans: _____ [3]

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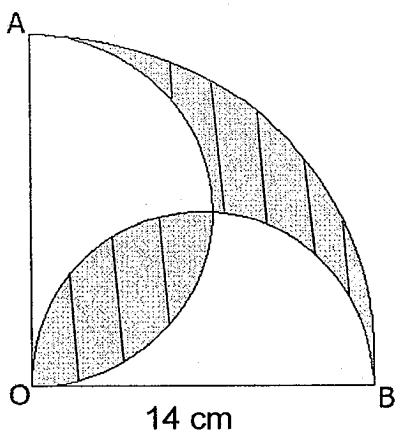
9 In the figure below, not drawn to scale, AOB is a quadrant of radius 14 cm. AO and BO are the diameters of two semicircles. Find the total shaded area. (Take $\pi = \frac{22}{7}$)



Ans: _____ [3]

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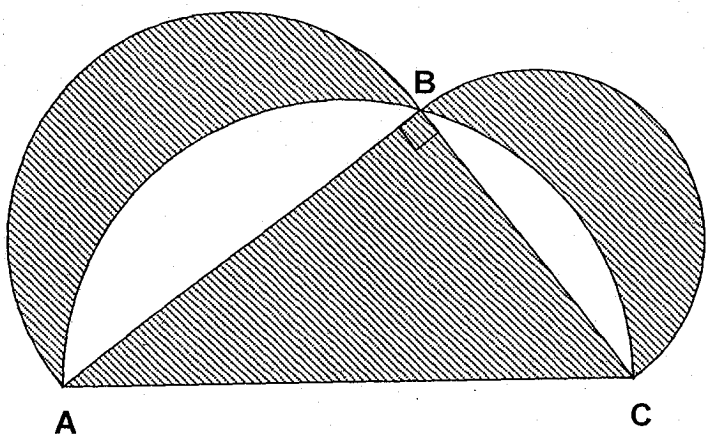
10 The figure shows 2 semicircles overlapping the biggest semicircle. The diameters of the 3 semicircles form the sides of a right-angled triangle ABC where AB = 12 cm, BC = 5 cm and AC = 13 cm. Find the area of the shaded region.
(Take $\pi = 3.14$)



Ans:_____ [5]

11 Miss Charlene made keychains for a donation drive. $\frac{5}{7}$ of the keychains were packed into 14 small bags and 4 medium bags. $\frac{3}{4}$ of the remaining keychains were packed into 6 big bags. The rest of the keychains were given out as free samples. Each medium bag contained 4 times as many keychains as each small bag. Each big bag contained 6 more keychains than each small bag.

(a) What fraction of the keychains were given out as free samples? (Give your answer in its simplest form.)

(b) How many keychains were there in all the big bags?

Ans: (a) _____ [1]

(b) _____ [3]

12 Benny and Danny shared a box of marbles. At first, the number of marbles Benny had to the number of marbles Danny had was 1 : 4. After they had bought another 70 marbles each, the number of marbles Danny had was $\frac{1}{5}$ more than the number of marbles Benny had. How many marbles were there in the box at first?

Ans: _____ [4]

13 There were 210 students in a Speech and Drama class last year. Some boys signed up for the class this year and the number of boys increases by 20%. However, there were some girls who withdrew from the class and the number of girls decreases by 10%. There is now an equal number of girls and boys in the class. How many students are there in the Speech and Drama class this year?

Ans: _____ [3]

14 Mindy and Jin Hao went for a jog around a 12-km circular track at 5.00 p.m. They started at the same point but went in the opposite directions. Mindy's jogging speed was 7 km/h and Jin Hao was 8 km/h. They did not change their speed throughout the jog.

(a) How long did Jin Hao take to complete the track?
(b) At what time did they first pass each other?

Ans: (a) _____ [2]

(b) _____ [3]

15 The Lee Family uses two pipes to fill their swimming pool. Pipe A fills the pool in 6 hours. Pipe B fills the pool in 8 hours. 2 hours after both pipes are turned on, Mr Lee accidentally turns on Pipe C which can drain the swimming pool completely in 12 hours. With all 3 pipes turned on, what is the total time taken to fill the swimming pool completely?

Ans: _____ [3]

16 Leslie entered a Spelling Bee competition. There were 100 words to be spelt. 5 marks were awarded for every word that is spelt correctly but 2 marks were deducted for every word spelt wrongly. Leslie scored 409 marks, how many words did he spell correctly?

Ans: _____ [4]

17 Dots are drawn at regular intervals along the sides of a five–sided figure.

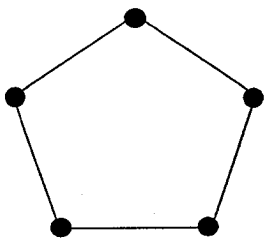


Figure 1

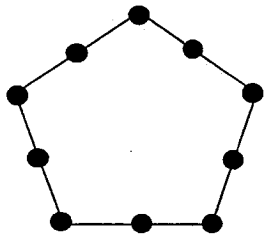


Figure 2

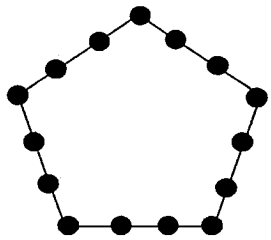


Figure 3

(a) Complete the table below for Figure 5.

Figure	Number of dots on each side	Total number of dots
1	2	5
2	3	10
3	4	15
4	.....	.....
5	_____	_____

[2]

(b) When a total of 225 dots are drawn, how many dots will there be on each side of the five–sided figure?

(c) If there are 75 dots on each side of the five–sided figure, how many dots are there altogether?

Ans: (b) _____ [1]

(c) _____ [2]

END OF PAPER 2

SCHOOL : RED SWASTIKA PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 SA1

PAPER 1 BOOKLET A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	4	1	4	3	1	2	3	2	2

Q 11	Q12	Q13	Q14	Q15
3	4	1	4	2

PAPER 1 BOOKLET B

Q16)	**B**
Q17)	**2h 38min**
Q18)	**504cm3**
Q19)	**66**
Q20)	**1/3**
Q21)	**1 – ¼ - 5/8** **= 8/8 – 2/8 – 5/8** **= 1/8**
Q22)	**1 – 2/5 = 3/5** **3/5 ÷ 6** **= 3/5 x 1/6 = 1/10**
Q23)	**40 – 18 = 22** **22/40 x 100% = 55%**
Q24)	**704cm**
Q25)	**g + 5 + g + 5 + g = 46** **3g + 10 = 46** **3g = 36** **g = 12**
Q26)	**180° – 105° = 75°** **60° + 75° = 135°** **180° – 135° = 45°**
Q27)	**360° – 210° = 150°** **150° – 90° = 60°**

Q28)	2/3 = 8/12 ¾ = 9/12 8u→320 1u→320/8 = 40ml
Q29)	12cm
Q30)	40km

PAPER 2

Q1)	Total shaded→16u – 4u + 1u = 13u Total unshaded→4u – 1u = 3u Unshaded : Shaded 3 : 13
Q2)	40÷2 = 20 △→20 x 20 = 400 →(20÷2) x (20÷2) x 3.14 = 10 x 10 x 3.14 = 314 Area of shaded = 314 + 400 = 714cm2
Q3)	a)12p = 4p x 3 12p = $k x 3 = $3k b)4p = 4F + $8 4F + $8 = $k 4F = $(k – 8) F = $(k – 8 / 4)
Q4)	300→60% B + 40% G 30 →10% G→30 x 4 = 120 120 →80% of new percentage 15 →10% of new percentage 30→new percentage of boys 180→No. of boys at first No. of boys who left = 180 – 30 = 150
Q5)	a = 988÷38 = 26 b = 26 + 14 = 40 Perimeter of the unshaded part = 40 x 2 + 70 x 2 = 220cm
Q6)	a)∢+ = 180 – (62° + 88°) = 30° b)∢s + ∢v = 88° ∢w + ∢u = 62° ∢s + ∢u + ∢v + ∢w = 88° + 62° = 150°

Q7)	A = 2u B = 3u C = 1½u 6½u = 338kg 1u = 338kg ÷ 6½ = 26kg C = 26kg x 1½ = 339kg
Q8)	Perimeter of circle = (0.7 x 3.14)m Perimeter of banner = (0.7 x 3.14)m + 8m = 10.198m ≈ 10.2m
Q9)	◣ = 14 x 14 x ½ = 98cm2 ■ = 14 x 14 x 22/7 x ¼ = 154cm2 Shaded area = (154 – 98)cm2 = 56cm2
Q10)	Total figure = (6 x 6 x ½ x 3.14) + (2.5 x 2.5 x ½ x 3.14) + (12 x 5 x ½) = 96.3325 Big = (13 x ½) x (13 x ½) x ½ x 3.14 = 66.3325 ◠ = 96.3325 – 66.3325 = 30 Total shaded area = 30 + 12 x 5 ½ = 60cm2
Q11)	a)total = 14u Given out = 1u The required fraction = 1/14 b) 6B = 3u 2B = u 10u = 20B 20B = 30S 20B = 20s + 6 x 20 = 20s + 120 S = 120 ÷ 10 = 12 B) = 12 + 6 = 18 Total (B) = 18 x 6 = 108
Q12)	B = 1u D = 4u 4u + 70 = 5x 1u + 70 = 5x 3u = 1x 3u + 210 = 15x 14x = 210 X = 15 U = 15/3 = 5 5u = 25

Q13)	210 = 40u + 30u =70u 1u = 3 No. of students in speech and drama class this year = 3 x 72 = 216
Q14)	a)12 ÷ 8 = 1½h b)7 + 8 = 15 12 ÷ 15 = 4/5 h = 48 min ANS: 5.48pm
Q15)	PA →1/6 per hour PB →1/8 per hour PC→Decrease 1/12 per hour 1/6 = 4/24 1/8 = 3/24 1/12 = 2/24 PA + PB = 7/24 per hour PA + PB + PC = (7/24 – 2/24)per hour = 5/24 per hour First 2h→(7/24 x 2) of pool filled = 14/24 Remaining →1 – 14/24 = 10/24 Amount of time needed to fill remaining→10/24 ÷ 5/24 = 2 Total time = 2h + 2h = 4h
Q16)	If all 100 words were spelled correctly, Leslie would score 500 500 – 409 = 91 5 + 2 = 7 91 ÷ 7 = 13 13 words spelled incorrectly. Words spelled correctly = 100 – 13 = 87
Q17)	a)4) 5 .... 20 5) 6..... 25 b)Figure No. = 225 ÷ 5 = 45 No. of Dots on each side = 45 + 1 = 46 c)75 – 1 = 74 74 is the figure number No. of dots = 75 x 5 = 375