RED SWASTIKA SCHOOL

2018 PRELIMINARY ASSESSMENT

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

---

1 Find the value of $(260 - 80 + 120) \div (10 - 4)$.

(1) 10
(2) 26
(3) 48
(4) 50

2 Which digit in 69.87 is in the tenths place?

(1) 6
(2) 7
(3) 8
(4) 9

3 Which of the following is the same as 30.02 *l* ?

(1) 3 *l* 2 ml
(2) 3 *l* 20 ml
(3) 30 *l* 2 ml
(4) 30 *l* 20 ml

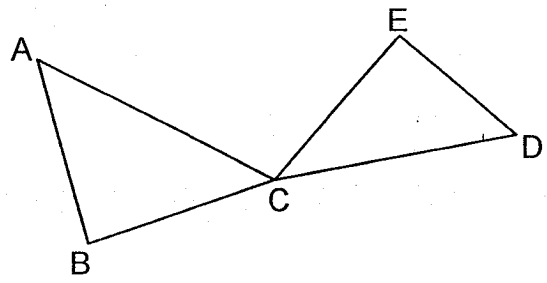
4 Which one of the following would be the most likely radius of a wheel of a bus?

(1) 5 m
(2) 5 cm
(3) 50 m
(4) 50 cm

5 Eliana took a flight from 06 45 to 16 00. How long was the flight?

(1) 8 h 15 min
(2) 8 h 55 min
(3) 9 h 15 min
(4) 9 h 55 min

6 Which two lines in the figure are perpendicular to each other?



(1) AB and BC
(2) AC and ED
(3) AC and CE
(4) CE and ED

7 The table below shows the number of people who attended a party last weekend.

		Number of people
Male	Boys	24
	Men	18
Female	Girls	16
	Women	30

Find the total number of children who attended the party.

(1) 40
(2) 42
(3) 46
(4) 48

8 Find the value of $7e - 3 + 2e$ when $e = 4$.

(1) 17
(2) 23
(3) 27
(4) 33

9 Which one of the following is nearest to 6?

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

(2) $5\frac{2}{3}$

(3) $6\frac{1}{2}$

(4) $6\frac{1}{4}$

10 A triangular piece of paper XYZ with XY = XZ is folded along the dotted line as shown in Diagram 1. Find $\angle k$.

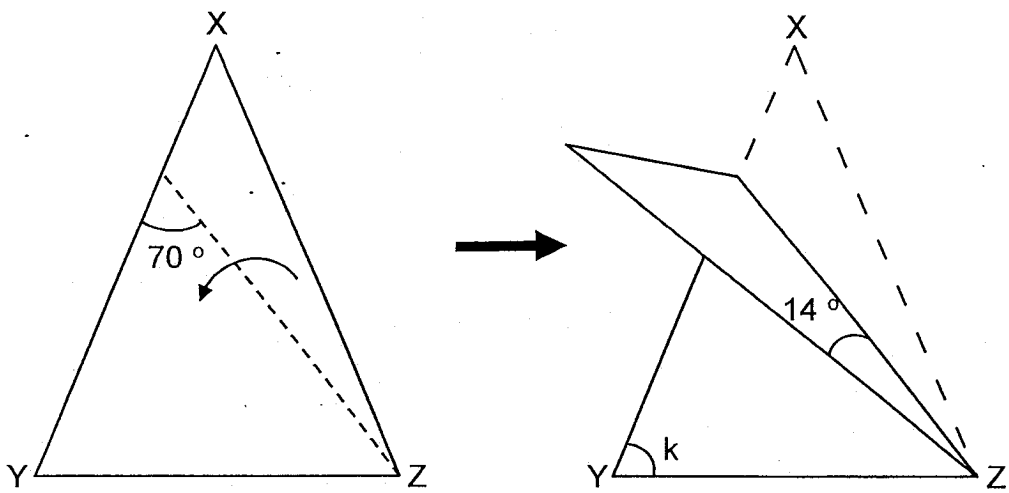
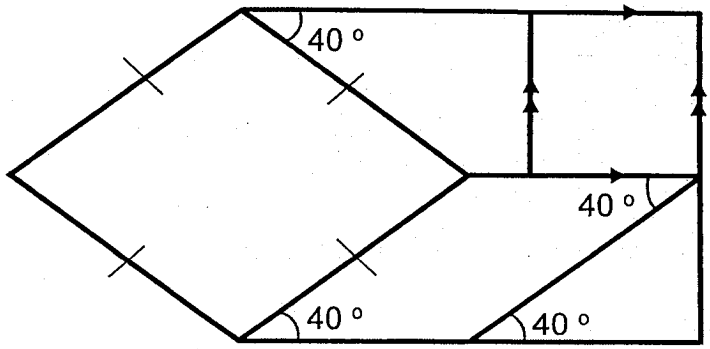


Diagram 1 before folding

Diagram 2 after folding

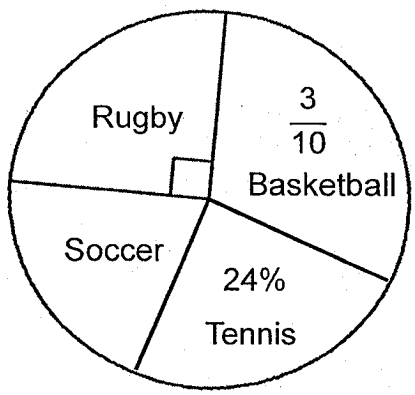
(1) 55 °
(2) 56 °
(3) 62 °
(4) 70 °

11 How many parallelogram(s) are there in the figure?



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

12 The pie chart below shows the favourite sport of a group of boys.



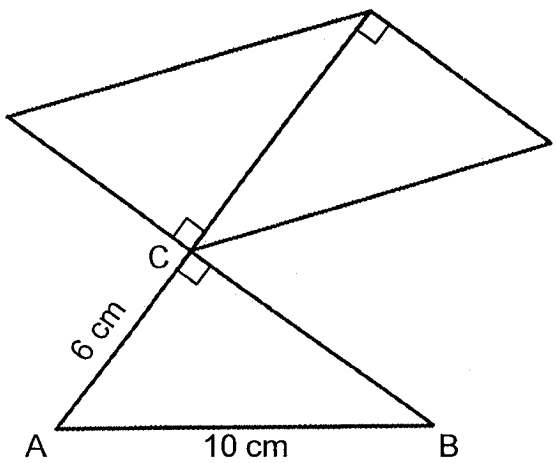
What is the ratio of the number of boys who like basketball to the number of boys who like soccer?

(1) 1 : 7
(2) 5 : 4
(3) 10 : 7
(4) 15 : 11

13 A driver travelled $\frac{1}{2}$ of his journey in 2 hours. He then travelled the remaining 180 km at a speed of 60 km/h. Find his average speed for the whole journey.

(1) 60 km/h
(2) 72 km/h
(3) 75 km/h
(4) 90 km/h

14 Nurul cut out three identical right-angled triangles. She joined them to form the figure below. AB = 10 cm and AC = 6 cm. The perimeter of the figure is 56 cm.



Find the area of Triangle ABC.

(1) 24 cm^2
(2) 30 cm^2
(3) 40 cm^2
(4) 50 cm^2

15 There were 60 more children in Room Y than in Room X. The number of boys in Room Y was 10 more than the number of boys in Room X. Given that there were 30 more girls than boys in Room X, how many more girls than boys were there in Room Y?

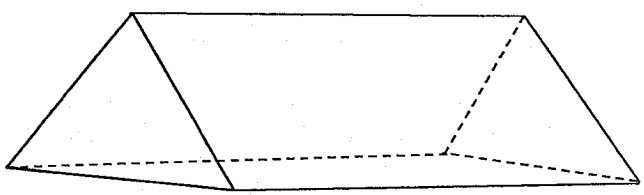
(1) 50
(2) 70
(3) 80
(4) 90

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)

16 Find the value of 0.34×80.

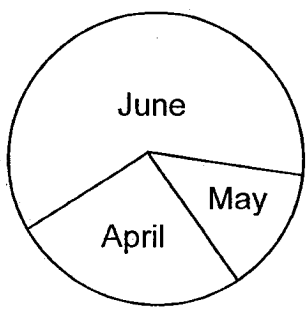
Ans: _____

17 Name the solid below.



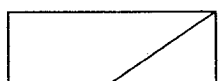
Ans: _____

18 The pie chart shows the number of jackets sold by a shop in three months.

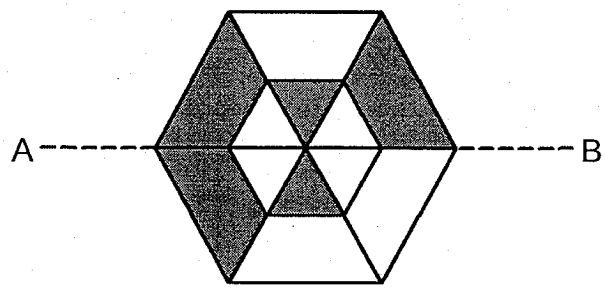


In which month did the shop sell the least number of jackets?

Ans: _____



19 The figure below is made up of six identical triangles and trapeziums. Shade the figure so that the figure has AB as its line of symmetry with $\frac{2}{3}$ of the figure shaded.



---

20 Mr Tan started baking cupcakes at 8 a.m. on Friday at a rate of 40 cupcakes per hour. Mrs Shanti started baking cupcakes at 9 a.m. on the same day, at a rate of 50 cupcakes per hour. After every 2 hours of baking, both of them will stop for an hour for a break. Find the total number of cupcakes baked by Mr Tan and Mrs Shanti by 12 noon on the same day.

Ans: _____

Questions 21 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.

(20 marks)

---

21 Find the sum of $\frac{2}{3}$ and $\frac{1}{8}$.

Ans: _____

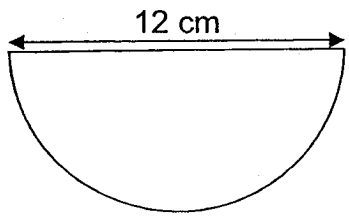
---

22 The average height of 3 children is 1 m 24 cm. What is their total height? Give your answer in m and cm.

Ans: _____ m _____ cm

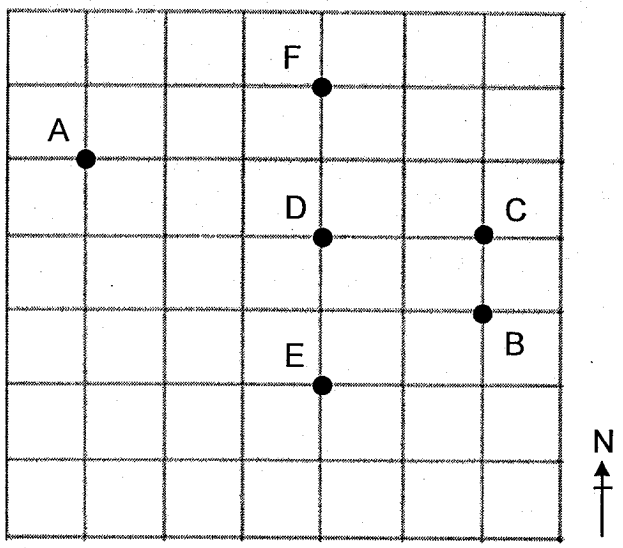
---

23 The figure below shows a semicircle. Find the perimeter of the semicircle. Leave your answer in terms of π.



Ans: _____ cm

24



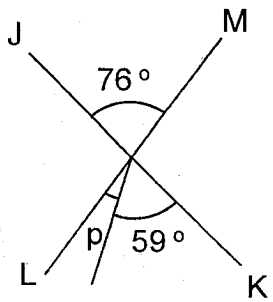
Refer to the square grid above and fill in the blanks with A, B, C, D, E or F.

(a) Point _____ is north-east of point E.

(b) Point D is south of point _____.

---

25 In the figure, JK and LM are straight lines. Find $\angle p$.



Ans: _____ °

---

26 Express 3.25 as an improper fraction in its simplest form.

Ans: _____

---

27 The table below shows how Mindy spent her money in the month of July.

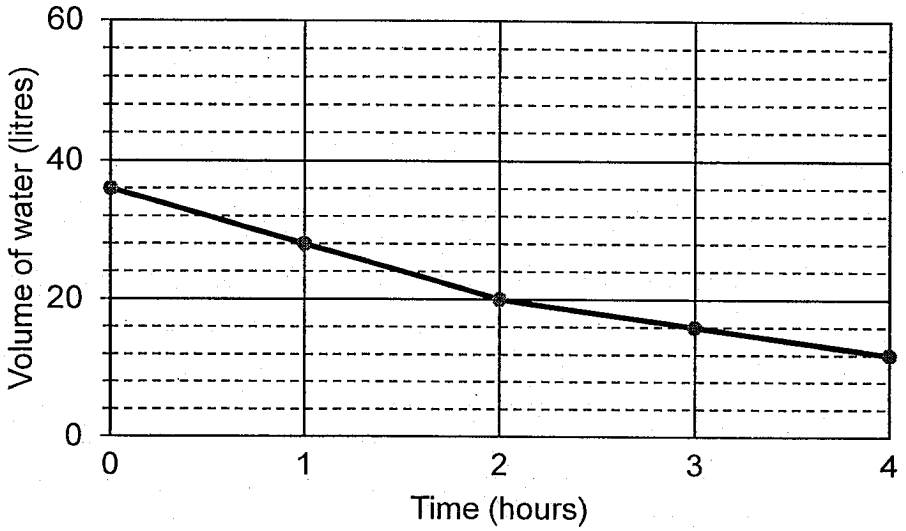
Expenditure	Amount ($)
Transport	?
Food	180
Books	?
Total amount spent	420

Given that the amount spent on food is twice the amount spent on books, how much did Mindy spend on transport in July?

Ans: $_____

Use the information below to answer questions **28** and **29**.

A rectangular tank, with a capacity of 50 000 cm^3, was partly filled with water. Tap A was then turned on to drain water out of the tank. After 2 hours, Tap B was turned on to fill the tank with water. The line graph below shows the volume of water in the tank at regular intervals of time.



28 What fraction of the tank was filled with water at first?

Ans: _____

---

29 Each statement below is either true, false or not possible to tell from the information given above. For each statement, put a tick (√) in the correct column.

	True	False	Not possible to tell
20 litres of water is being drained out from Tap A in 2 hours.			
The rate in which water is being drained out from Tap A is higher than the rate of water entering the tank from Tap B.			

30 Sam is twice as old as Brian now. In w years' time, the sum of their ages will be 40. Find Brian's age 5 years ago. Give your answer in terms of w.

Ans: _____

END OF PAPER

Questions 1 to 5 carry 2 marks each. Show your workings 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)

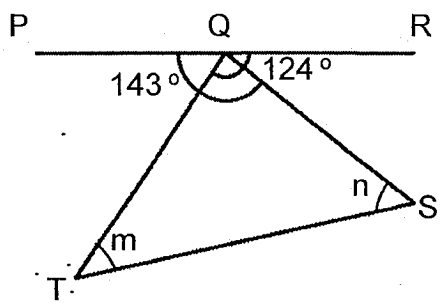
---

1 Royston and Song Qi had a total of 174 cards at first. After Royston bought 34 more cards and Song Qi gave away 18 cards, both had equal number of cards left. How many cards did Royston have at first?

Ans: _____

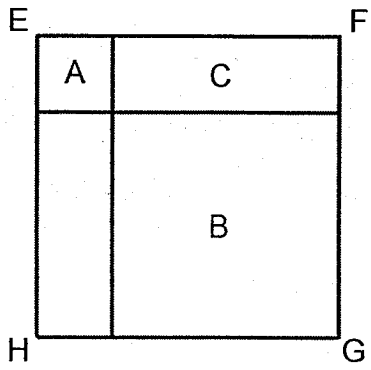
---

2 In the figure below, PQR is a straight line and QST is a triangle. $\angle PQS = 143^\circ$ and $\angle RQT = 124^\circ$. Find the sum of $\angle m$ and $\angle n$.



Ans: _____ °

3 In the figure below, the ratio of the area of rectangle C to the area of square B is 1 : 3. Find the ratio of the area of square A to the area of square EFGH.



Ans: _____

---

4 Mrs Tan distributed 60 pencils and 45 erasers equally among all her students in her class.

(a) Find the largest possible number of students in her class.

(b) Find the least number of pencils each student could have received.

Ans: (a)_____ [1]

(b)_____ [1]

---

5 36 workers are supposed to pack some boxes of oranges. However, 2 workers fell sick and did not report for work. As a result, the rest of the workers need to pack n more boxes of oranges each. Find the total number of boxes of oranges that were packed in terms of n.

Ans: _____

For Questions 6 to 17, show your workings 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.

(45 marks)

---

6 Joe spent $\frac{3}{5}$ of his money on a can of drink and a plate of chicken rice. The plate of chicken rice cost \$3 more than the can of drink. Joe then spent the rest of his money to buy another 2 similar cans of drink and had \$1 left, find the cost of the can of drink.

Ans: _____ [3]

---

7 The ratio of the volume of milk in Glass A to the volume of milk in Glass B is 1 : 5. The ratio of the volume of milk in Glass B to the volume of milk in Glass C is 3 : 2. Given that there is 980 ml of milk in the three glasses altogether, how much milk is there in Glass A?

Ans: _____ [3]

---

8 Raju had some money. He spent 40% of his money on a bag and 50% of the remainder on a shirt.

(a) Which item, the bag or the shirt, is more expensive?

(b) Sandy, who had twice the amount of money Raju had at first, bought three of the same bags. What percentage of her money had she left?

Ans: (a)_____ [1]

(b)_____ [2]

---

9 Mrs Kim had $\frac{6}{7}$ kg of flour in a container. She packed them into some bags, each bag containing $\frac{1}{9}$ kg of flour.

(a) How many bags of flour did Mrs Kim pack at most?

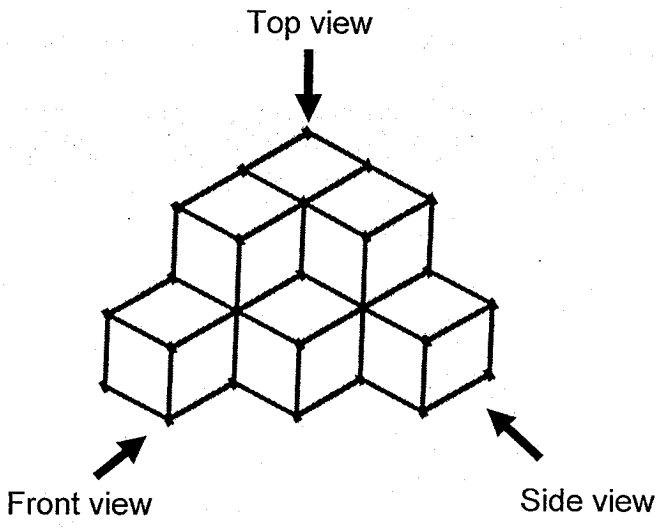
(b) How many kilograms of flour had she left in the container? Give your answer as a fraction in its simplest form.

Ans: (a)_____ [2]

(b)_____ [1]

---

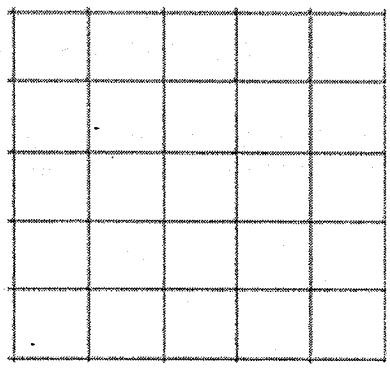
10 The figure below shows 9 identical 4-cm cubes which are glued together to form a solid.



(a) Find the volume of the solid.

(b) The whole solid, including the base, is then painted red. How many cubes have at least three of their faces painted red?

(c) Draw the front view of the solid on the square grid below.



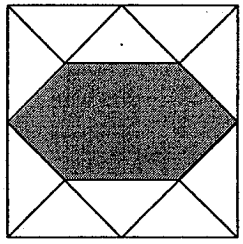
[1]

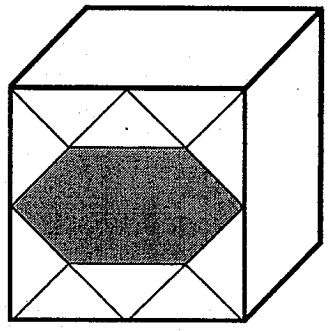
Ans: (a)_____ [1]

(b)_____ [1]

11 Jason had a cube. He drew Figure 1 on only one of the faces of his cube. The inner square in Figure 1 is formed by joining the mid-points of the sides of the outer square. The area of the shaded part is 24 cm^2.

Figure 1





(a) What fraction of Figure 1 is shaded?

(b) Find the length of one edge of the cube.

(c) The net drawn for his cube in Figure 2 is incorrect.
Put a cross 'X' on the face that does not fit the net of his cube.

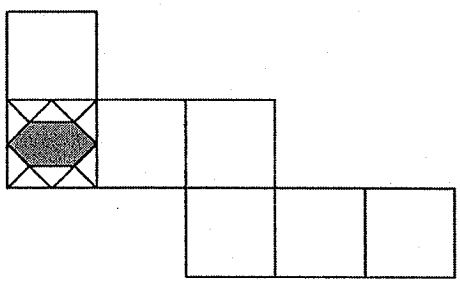


Figure 2 [1]

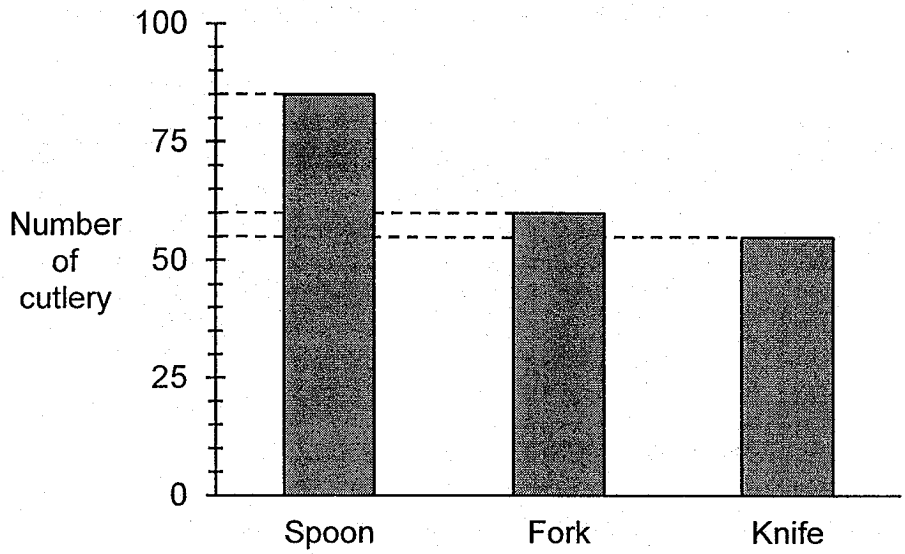
(d) Find the perimeter of the correct net of his cube.

Ans: (a)_____ [1]

(b)_____ [2]

(d)_____ [1]

12 The bar graph shows the number of each type of cutlery sold in a shop.



The table shows the prices of the cutlery.

Type of cutlery	Price per cutlery
Spoon	$1.40
Fork	$2.50
Knife	$4.10

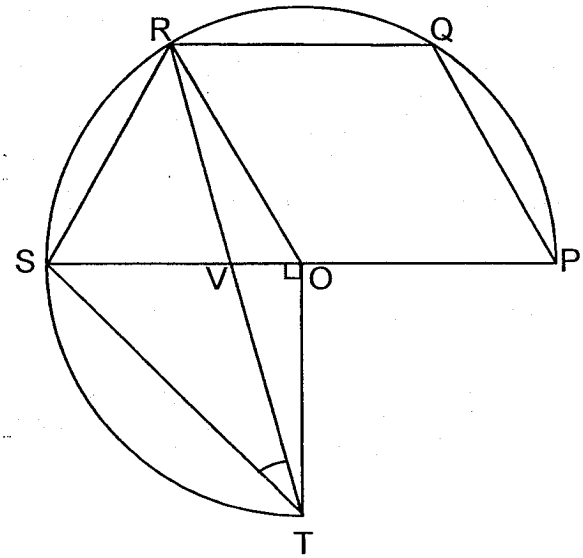
(a) How many more spoons than knives were sold?

(b) Find the average amount of money collected from the cutlery sold. Round off your answer to the nearest dollar.

Ans: (a)_____ [2]

(b)_____ [3]

13 In the figure below, O is the centre of the circle and SOP is a straight line. OPQR is a rhombus, SOT is a right-angled triangle and RS = OT.



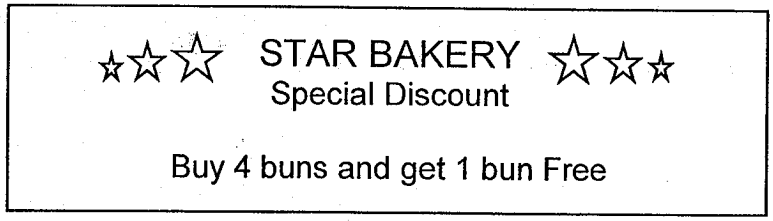
(a) Name a trapezium in the figure above.

(b) Find $\angle$RTS.

Ans: (a)_____ [1]

(b)_____ [2]

14



Siti had 10 buns, 120 muffins and 30 cookies after spending 50% of her money at Star Bakery. The cost of each muffin to the cost of each cookie is 1 : 2. The amount she spent on all the muffins is thrice the amount she spent on all the buns.

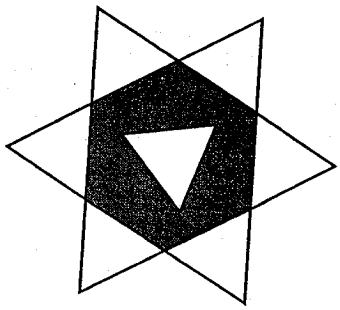
(a) Find the percentage discount for the buns.

(b) Siti then decided to spend the rest of her money on buns. How many free buns will she get from spending the rest of her money on buns in Star Bakery?

Ans: (a)_____ [1]

(b)_____ [3]

15 The figure below is made up of seven identical unshaded equilateral triangles and a shaded region. The perimeter of each equilateral triangle is 18 m.



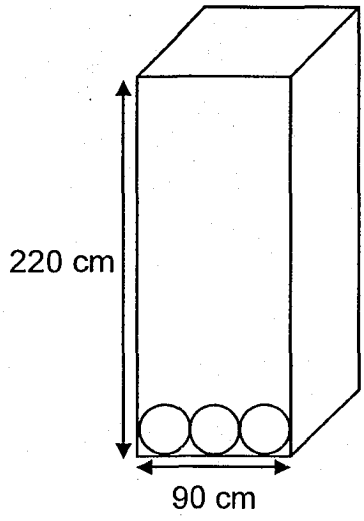
(a) Find the perimeter of the figure in metres.

(b) Given that the area of the shaded region is $60y$ m^2. Find the area of the figure in terms of y.

Ans: (a)_____ [2]

(b)_____ [2]

16 A box with an open top has a square base of side 90 cm. The height of the box is 220 cm. Ken cut circular cardboards out from the faces of the open box. The figure below shows how he cut out 3 circular cardboards from one of the faces. Take $\pi = 3.14$.



(a) Find the area of each circular cardboard.

(b) What is the greatest number of circular cardboards Ken can cut from the open box?

Ans: (a)_____ [2]

(b)_____ [2]

17 Ali uses rods to form figures that follow a pattern. The first five figures are shown below.

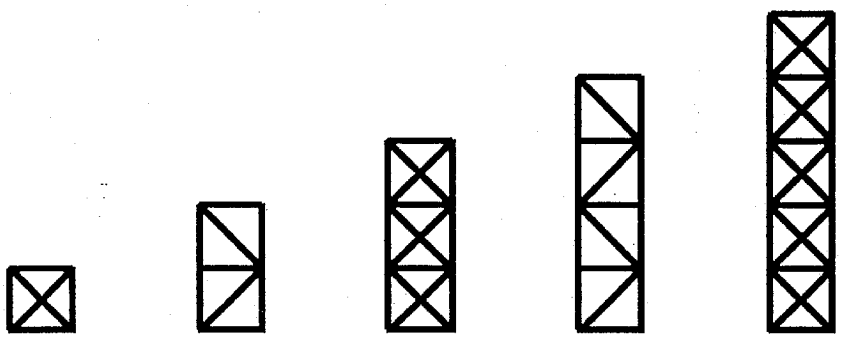


Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

(a) The table below shows the number of rods used and the number of triangles found in each figure. Complete the table for Figure 6.

Figure Number	Number of rods used	Number of triangles
1	6	4
2	9	4
3	16	12
4	17	8
5	26	20
6	25	

[1]

(b) How many rods would he use in Figure 7?

(c) How many rods would he use in Figure 30?

Ans: (b)_____ [2]

(c)_____ [2]

END OF PAPER

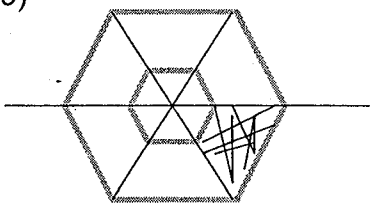
SCHOOL : RED SWASTIKA PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 PRELIM

PAPER 1 BOOKLET A

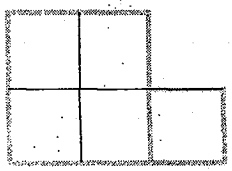
Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	3	4	4	3	4	1	4	1	3

Q 11	Q12	Q13	Q14	Q15
3	3	2	1	2

PAPER 1 BOOKLET B

Q16)	**27.2**
Q17)	**Prism**
Q18)	**May**
Q19)	
Q20)	**220**
Q21)	**19/24**
Q22)	**3 m 72 cm**
Q23)	**(6∏+ 12)cm**
Q24)	**a)C** **b)F**
Q25)	**17°**
Q26)	**13/4**
Q27)	**$150**
Q28)	**18/25**
Q29)	**False** **True**
Q30)	**40 – 2w /3 – 5**

PAPER 2

Q1)	174 + 34 – 18 = 190 190 →2u 1u = 190/2 1u = 95 Royston = 95 – 34 = 61
Q2)	143° + 124° = 267° ∢TQS = 267° – 180° = 87° Sum of∢ m + ∢n = 180° – 87° = 93°
Q3)	1 : 16
Q4)	a)LCM of 60 and 45 1 , 3 , 5 , 15 b)60÷15 = 4
Q5)	36 – 2 = 34 34 x n = 34n 34n = No of boxes 2 workers had to pack 17n = No of boxes 1 worker had to pack No of boxes that were packed = 36 x 17m = 612n
Q6)	Chicken Rice = Can drink + $3 CR + CD = 3/5 of money 2CD + $1 = 2/5 of money 1/5 of money→$3 – $1 = $2 Can drink→$2 x 2 – $1 / 2 = $1.50
Q7)	980ml = 3u + 15u + 10u = 28u 1u = 980ml/28 = 35ml A = 35ml x 3 = 105ml
Q8)	a)The boy b)Bag = 4u Sandy = 20u 20u – 4u = 16u 16/20 x 100% = 80%
Q9)	a)7 b)5/63kg
Q10)	a)4 x 4 x 4 = 64 64 x 9 = 576 b)1 x 7 = 7 c) 4cm 

Q11) a)shaded = 6u

Figure 1 = 16u

6/16 = 38

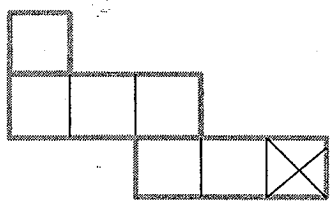
b)24cm2 = 6u

1u = 4cm2

16u = 64cm2

$\sqrt{64cm2}$ = 8cm

c)



d)8cm x 14 = 112cm

Q12) a)85 – 55 = 30

b)85 x $1.40 = $119

60 x $2.50 = $150

55 x $4.10 = $225.50

Total = $494.50

Average = $494.50 ÷ (85 + 60 + 55) = $2.4725

≈ $2

Q13) a)RQPS

b)∢STO = ∢OST = 180° – 90° / 2 = 45°

∢ROP = 180° – 60° = 120°

∢OTR = 180° – 60° – 90° / 2 = 15°

∢RTS = 45° – 15° = 30°

Q14) a)20%

b)M : C

1 : 2

1 cookie = 2 Muffin

120 Muffin = 30 Buns

1 Bun = 4 Muffin

½ money = 10Bun + 120 Muffin + 30 cookie

= 40 muffin + 120 muffin 60 muffin

= 220 muffin

220 ÷ 5 = 44

Q15) a)18 ÷ 3 x 2 = 12

12 x 6 = 72

b)Shade Region = 5 △

$5\triangle = 60\ ym2$

$1\triangle = 12ym2$

$7\triangle + 5\triangle = 12ym2 \times 12 = 144ym2$

Q16)	a)90 ÷ 3 = 30 30 ÷2 = 15 15 x 15 x Π = 15 x 15 x 3.14 = 706.5cm2 b)220÷30 = 7 R10 90÷30 = 3 N0. Of circular cardboards Ken can cut = 3 x 3 + 7 x 3 x 4 = 93
Q17)	a)12 b)26 + 10 = 36 c)30÷2 = 15 15 – 1 = 14 14 x 8 + 9 = 121