

**FIRST SEMESTRAL EXAMINATION
2016**

**PRIMARY 6
MATHEMATICS
PAPER 1**

DURATION: 50 MINUTES

18 May 2016.

PAPER 1 (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 oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

1 Which one of the following is a common factor of 6 and 16?

(1) 1

(2) 6

(3) 16

(4) 48

2 Which one of the following is nearest to 1?

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

(2) $\frac{5}{6}$

(3) $1\frac{1}{5}$

(4) $1\frac{1}{7}$

3 Find the value of $750 \div 8$.

(1) 9.375

(2) 9.875

(3) 93.75

(4) 98.75

4 The price of a car was increased by 20% to \$120 000. How much was the original price of the car?

(1) \$80 000

(2) \$100 000

(3) \$150 000

(4) \$600 000

5 Jun Xi has 80 marbles. He has $2x$ marbles fewer than his sister. How many marbles do both of them have altogether?

(1) $80 + 2x$

(2) $80 - 2x$

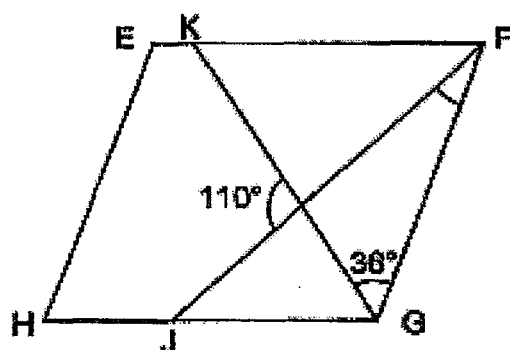
(3) $160 - 2x$

(4) $160 + 2x$

- 6 Julian had some beads. He gave away 210 beads and was left with 30% of the beads. How many beads did he have at first?

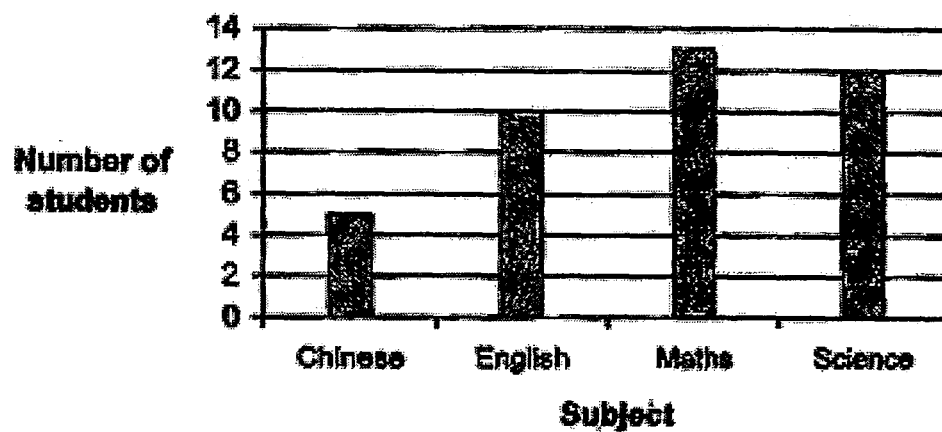
- (1) 90
- (2) 300
- (3) 490
- (4) 700

- 7 EFGH is a parallelogram. FJ and KG are straight lines. Find $\angle JFG$.



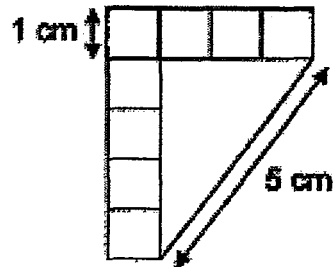
- (1) 74°
- (2) 54°
- (3) 34°
- (4) 4°

- 8 The graph below shows the favourite subjects of a class of students.
How many more students prefer Maths or Science to Chinese?



- (1) 15
- (2) 20
- (3) 25
- (4) 30

- 9 The figure below is made of eight identical squares and a right-angled triangle. Find the perimeter of the figure.



- (1) 14 cm
(2) 16 cm
(3) 23 cm
(4) 30 cm
- 10 The sides of a triangle are in the ratio 6 : 4 : 9. The length of the shortest side is 36 cm. Find the length of the longest side.

- (1) 16 cm
(2) 41 cm
(3) 54 cm
(4) 81 cm

11 Find the product of $\frac{4}{3}$ and $\frac{5}{6}$.

(1) $\frac{10}{9}$

(2) $\frac{8}{5}$

(3) $\frac{20}{3}$

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

12 Arrange the following numbers in descending order.

9, 9.09, 9.009, 9.9

(1) 9.9, 9, 9.09, 9.009

(2) 9.9, 9.09, 9.009, 9

(3) 9, 9.9, 9.09, 9.009

(4) 9, 9.009, 9.09, 9.9

13 What is the perimeter of a semicircle with radius 14 cm?

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

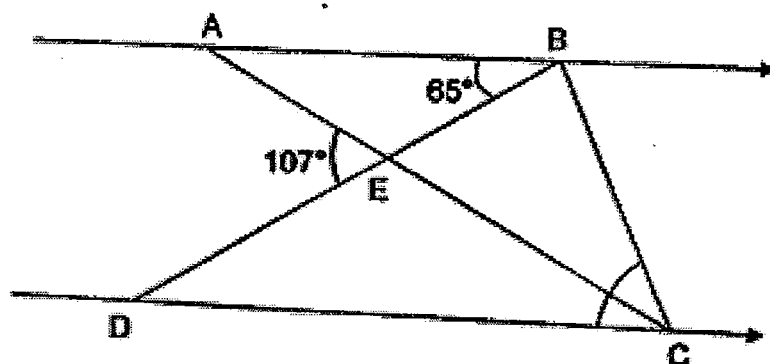
(1) 36 cm

(2) 44 cm

(3) 58 cm

(4) 72 cm

14 In the figure below, AB is parallel to DC and AEC cuts $\angle BCD$ equally. AEC and BED are straight lines. Given that $\angle ABD$ is 65° and $\angle AED$ is 107° , find $\angle BCD$.



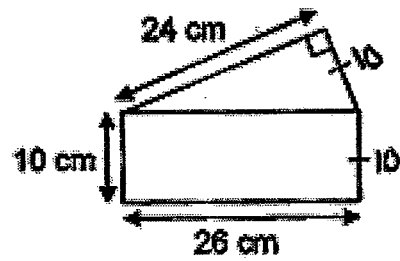
(1) 42°

(2) 56°

(3) 73°

(4) 84°

- 15 The figure below is made of a right-angled triangle and a rectangle. Find the area of the figure.



- (1) 260 cm^2
- (2) 380 cm^2
- (3) 390 cm^2
- (4) 500 cm^2

Name: _____ () Class: Pr 6 ()

PAPER 1 (BOOKLET B)

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 Simplify $6n + 8 + 2n - 7$.

Ans: _____

17 Find the value of $8008 - 299$.

Ans: _____

18 Find the value of $(18 + 12) - 5 + 1 \times 4$.

Ans: _____

- 19** Express 17.05 as a mixed number in its simplest form.

Ans: _____

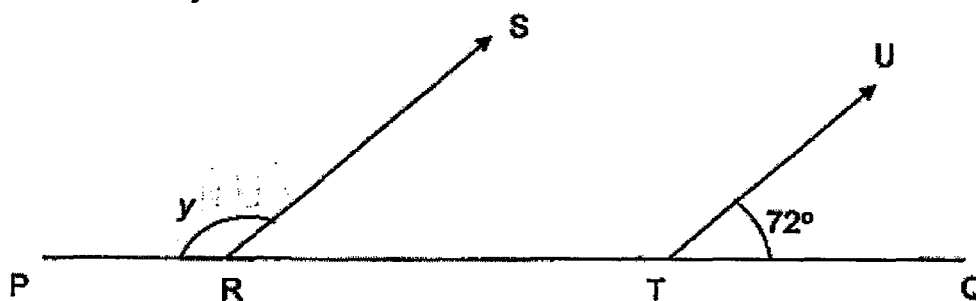
- 20** Round off 499.998 to the nearest hundredth. Leave your answer in 2 decimal places.

Ans: _____

- 21** Ji Sub bought an oven for \$1070 inclusive of 7% GST. How much was the usual price of the oven without GST?

Ans: \$ _____

- 22 In the figure below, PQ is a straight line, RS and TU are parallel. Find the value of y .

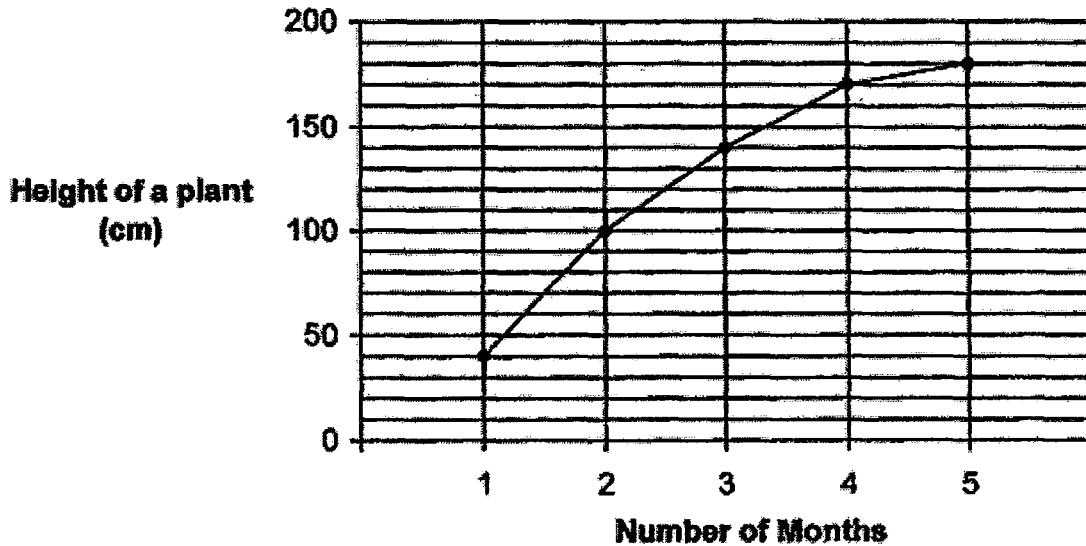


Ans: _____^o

- 23 What is 2016 cm in m?
Express your answer as a decimal.

Ans: _____ m

- 24 The graph below shows the height of a plant over a 5-month period. What is the difference in the height of the plant between the 2nd and the 4th month?



Ans: _____ cm

- 25 A painter mixed 2 l of blue paint and 6 l of yellow paint with every litre of white paint for a painting job. He used a total of 36 l of paint for the painting job. How many litres of white paint did he use?

Ans: _____ l

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)

- 26 The total cost of 400 identical bags is \$482. What is the total cost of 100 such bags?

Ans: \$ _____

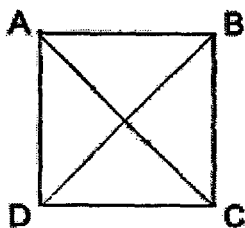
- 27 The length of a rectangle is 6 times its breadth. Express the ratio of the length of the rectangle to the perimeter of the rectangle in the simplest form.

Ans: _____

- 28 Boon went for a 3-day hiking trip. Each day he walked 2.4 km more than the day before. He walked a total of 54 km for the three days. How many kilometres did he walk on the third day?

Ans: _____ km

- 29 The figure below is made of up a circle and a square. Points A, B, C and D lie on the circumference of the circle. The area of Square ABCD is 50 cm^2 . Find the area of the circle in terms of π .



Ans: _____ cm^2

- 30** After a class test, Si Won and some of his friends calculated their average marks. They realised that if Si Won had scored 15 marks more, they would have an average of 85 marks. However, if Si Won had scored 7 marks more, they would have an average of 83 marks. How many of them, including Si Won, were calculating their average marks together?

Ans: _____

END OF PAPER

**FIRST SEMESTRAL EXAMINATION
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**PRIMARY 6
MATHEMATICS
PAPER 2**

18 May 2016.

PAPER 2

Questions 1 to 5 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)

-
- 1 The table below shows the mass of a group of children. Express the ratio of Kelsey's mass to Gopal's mass to Jiawen's mass. Give your answer in the simplest form.

Name of child	Mass (kg)
Gopal	36
Isabel	24
Jiawen	28
Kelsey	32

Ans: _____

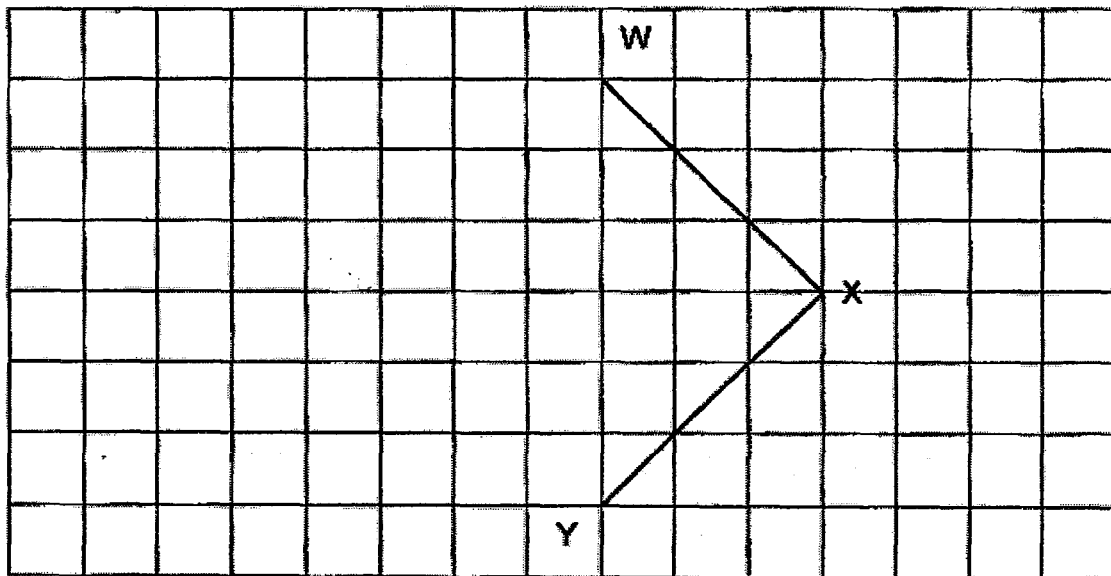
-
- 2 Gary is y years older than his sister. His sister is 10 years old now, how old is Gary now?

Ans: _____

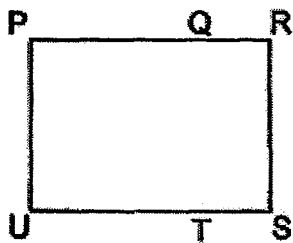
- 3 Mrs Lim sold 8.09 kg of beef in the morning and 9200 g in the afternoon.
How much beef did she sell altogether? Give your answer in kg.

Ans: _____ kg

- 4 Two sides of a square WXYZ have been drawn in the square grid as shown below. Complete the drawing of the square WXYZ.



- 5 In the figure below, PQTU is a square and QRST is a rectangle. The area of Square PQTU is 196 cm^2 and the area of Rectangle QRST is 84 cm^2 . Find the length of TS.



Ans: _____ cm

For questions 6 to 18, show your working clearly in the space provided for 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 Mr Heng bought 10 pizzas to give to a group of children. After each girl was given $\frac{1}{8}$ of a pizza and each boy was given $\frac{1}{4}$ of a pizza, there was no pizza left. There were thrice as many girls as boys. How many boys were there?

Ans: _____ [3]

-
- 7 The ratio of the number of stickers Ming had to the number of stickers Raihana had is 11 : 7. After Ming gave 42 stickers to Raihana, the ratio of the number of stickers Ming had to the number of stickers Raihana had became 4 : 5. How many stickers did they have altogether?

Ans: _____ [3]

- 8 Figure 1 below shows a rectangular piece of paper CDEF. It is folded along DF to form Figure 2. Find $\angle a$.

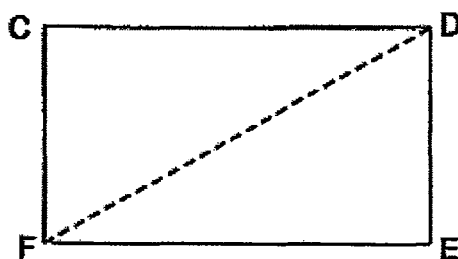


Figure 1

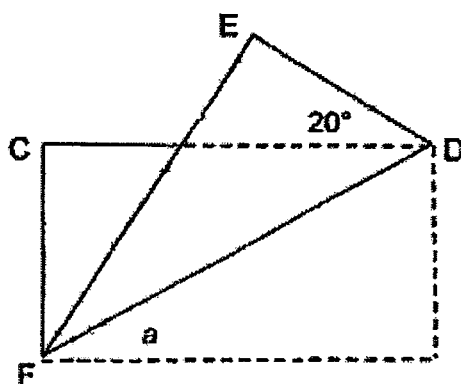


Figure 2

Ans: _____ [3]

- 9 On Day 1 of a camp, the participants were divided to form groups such that there were exactly 12 participants in each group. On Day 2, 8 more participants joined the camp and all the participants were then rearranged to form new groups. Each group had 10 participants and there were 3 more groups than Day 1. On both days, no participants left the camp. How many participants were there at the camp on Day 2?

Ans: _____ [3]

10

A table in a hall can sit 4 pupils as shown in Diagram 1. When the tables are joined together, they could sit the number of pupils as illustrated in Diagrams 2 and 3 below.

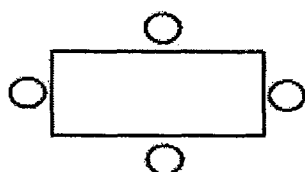


Diagram 1

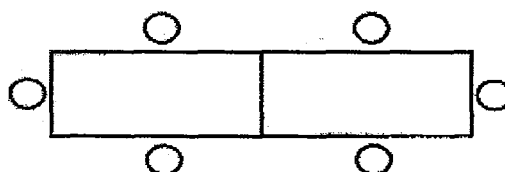


Diagram 2

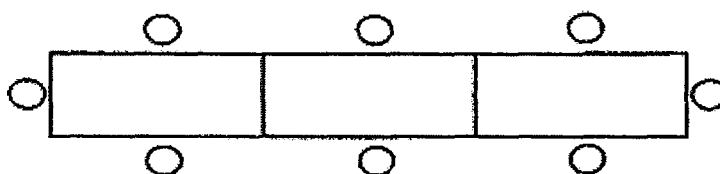


Diagram 3

- (a) How many pupils could be seated when 4 tables are joined together?
- (b) How many pupils could be seated when 50 tables are joined together?

Ans: (a) _____ [1]

(b) _____ [2]

- 11 Naomi and Zec shared a sum of money. $\frac{1}{4}$ of Naomi's share was \$120 more than 20% of Zec's share. They had a total of \$5700. How much did Naomi have?

Ans: _____ [4]

- 12** At first, the ratio of the number of children to the number of adults at a party was $1 : 2$. After 96 more children and 118 more adults joined the party, the ratio of the number of children to the number of adults at the party became $3 : 5$ in the end. How many adults were there at the party at first?

Ans: _____ [4]

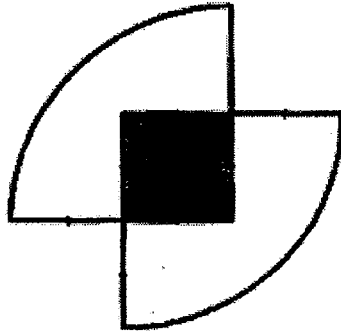
- 13 Mrs Lim bought some green ribbon and some purple ribbon. The total length of the green ribbon and the purple ribbon she bought was $396\frac{1}{3}$ m. After using $\frac{4}{7}$ of the green ribbon and $\frac{3}{5}$ of the purple ribbon, she had an equal length of green ribbon and purple ribbon left. How many metres of purple ribbon did she buy?

Ans: _____ [4]

- 14 Azean had 0.6 as many books as Tricia. Azean gave away 20% of her books and Tricia ^{gave away} bought another 108 books. As a result, Azean had 0.5 as many books as Tricia. How many books did Tricia have in the end?

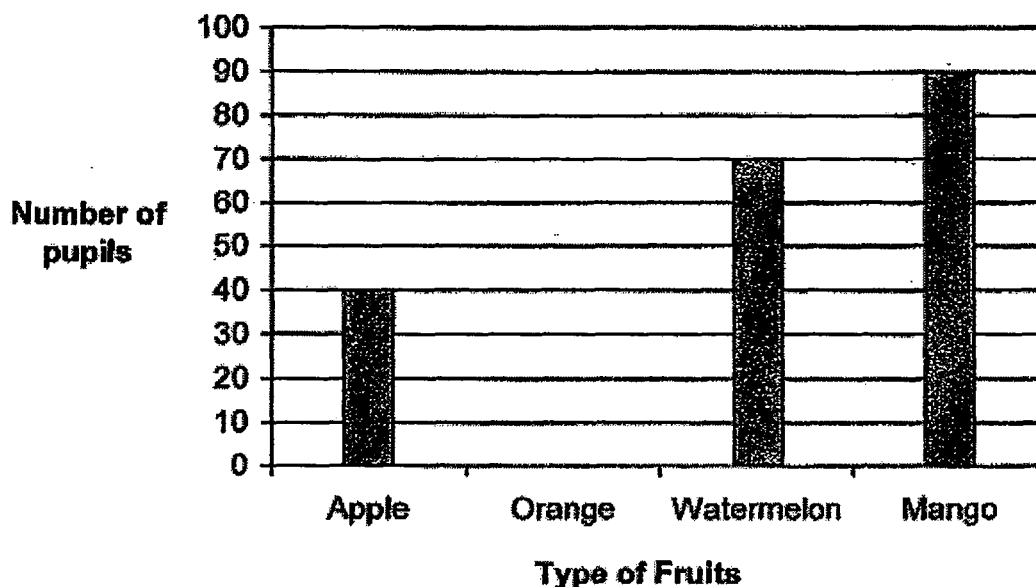
Ans: _____ [4]

- 15 The figure below is made up of 2 overlapping quadrants. The area of the shaded part is 36 cm^2 . Using $\pi = 3.14$, find the perimeter of the figure.



Ans: _____ [4]

- 16 250 pupils were asked to choose one of their favourite fruits. The bar graph below shows the choice of the pupils. The result for the number of pupils who chose orange was accidentally erased and some pupils did not choose a fruit at all.

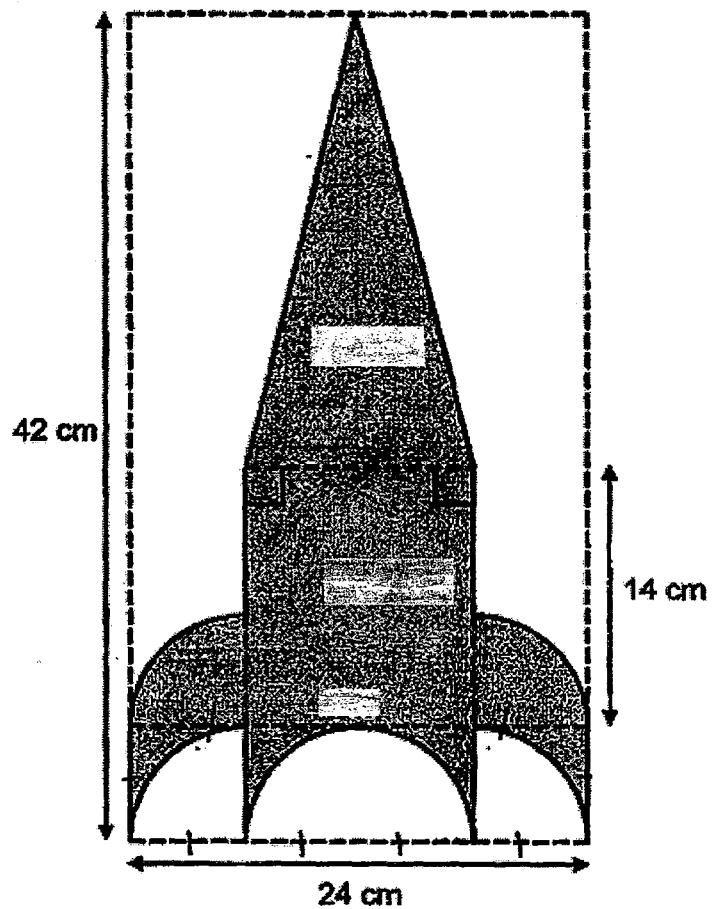


- (a) What ~~percentage of~~ the pupils chose ~~mango~~ as their favourite fruit?
- (b) The total number of pupils who chose watermelon and mango as their favourite fruits was twice the number of pupils who chose apple and orange. How many pupils did not choose a fruit at all?

Ans: (a) _____ [1]

(b) _____ [4]

- 17 A symmetric figure is drawn on a rectangular piece of paper measuring 42 cm by 24 cm as shown below. Its outline consists of 4 identical quarter circles, 1 semi-circle and 8 straight lines. Using $\pi = 3.14$, find the area of the figure.



Ans: _____ [5]

- 18 Jolene spent $\frac{1}{4}$ of her salary on a bag. She bought a pair of shoes with $\frac{1}{6}$ of the remaining money and a scarf with \$225. She then gave $\frac{2}{5}$ of the rest of her money to her mother and \$180 to her son. In the end, she had $\frac{3}{10}$ of her salary left. How much was Jolene's salary?

Ans: _____ [5]

END OF PAPER

ANSWER SHEET

EXAM PAPER 2016

SCHOOL :NANYANG

SUBJECT :P6 MATHEMATICS

TERM : SA1

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

16) $(8n+1)$

17)7709

18)29

19) $17\frac{1}{20}$

20)500.00

21)\$1000

22) $\angle UTR \rightarrow 180^\circ - 72^\circ = 108^\circ$

23) $2016 \div 100 = 20.16m$

$\angle SRT \rightarrow 180^\circ - 108^\circ = 72^\circ$

24) $170 - 100 = 70 \text{ cm}$

$\angle y \rightarrow 180^\circ - 72^\circ = 108^\circ$

25) $2L + 6L + 1L = 9L$

$36L \div 9L = 4$

26) $400 \div 100 = 4$

$\$482 \div 4 = \120.50

$$27) L : B$$

$$6 : 1$$

$$(6+1) \times 2 = 14$$

$$L : P$$

$$6 : 14$$

$$= 3 : 7$$

$$29) 50 \div 2 = 25$$

$$\frac{1}{2} \times 10 \times 5 = 25$$

$$10 \div 2.5$$

$$\Pi \times 5 \times 5 = 25 \Pi \text{ cm}^2$$

$$28) 2.4 \times 3 = 7.2$$

$$54 - 7.2 = 46.8$$

$$46.8 \div 3 = 15.6$$

$$15.6 + 2.4 \times 2 = 20.4 \text{ km}$$

$$30) 15 - 7 = 8$$

$$85 - 83 = 2$$

$$8 \div 2 = 4$$

Paper 2

$$1) K : G : J$$

$$32 : 36 : 28$$

$$= 8 : 9 : 7$$

$$2) S \rightarrow 10$$

$$G \rightarrow (10 + y) \text{ years old}$$

$$3) 9200\text{g} = 9.2\text{kg}$$

$$8.09\text{kg} + 9.2\text{kg} = 17.29\text{kg}$$

$$4)$$

$$5)\sqrt{196} = 14$$

$$84 \div 14 = 6\text{cm}$$

$$7) \text{ M : R}$$

$$11 : 7$$

-42

+42

$$4 : 5$$

$$= 8 : 10$$

$$11 + 7 = 18$$

$$4 + 5 = 9$$

$$18 \div 9 = 2$$

$$11 - 8 = 3$$

$$42 \div 3 = 14$$

$$14 \times 18 = 252$$

$$9) 10 \text{ groups of } 12 \rightarrow 12 \times 10 = 120$$

$$120 + 8 = 128$$

$$11 \text{ groups of } 12 \rightarrow 12 \times 11 = 132$$

$$132 + 8 = 140 \text{ (ans)}$$

$$140 \div 10 = 14$$

$$14 - 11 = 3$$

$$6) 1/8 \times 3 + 1/4 = 5/8$$

$$10 \div 5/8 = 16$$

$$8) 180^\circ - 90^\circ - 20^\circ = 70^\circ$$

$$180^\circ - 70^\circ = 110^\circ$$

$$180^\circ - 110^\circ = 70^\circ$$

$$\angle \text{CFE} \rightarrow 180^\circ - 90^\circ - 70^\circ = 20^\circ$$

$$90^\circ - 20^\circ = 70^\circ$$

$$\angle a \rightarrow 70^\circ \div 2 = 35^\circ$$

$$10) a) 8 + 2 = 10$$

$$50 \times 2 = 100$$

$$b) 100 + 2 = 102$$

11) $20\% = 1/5$

$\$120 \times 5 = \600

$\$5700 + \$600 = \$6300$

$4 + 5 = 9$

$\$6300 \div 9 = \700

$\$700 \times 4 = \2800

12) C : A

1 : 2

+ 96

+ 118

3 : 5

$118 - 96 = 22$

$3u - 2u = 1u$

$1u \rightarrow 96 - 22 = 74$

$74 \times 5 = 370$

$370 - 118 = 252$

13) $1 - 4/7 = 3/7$

$1 - 3/5 = 2/5$

$3/7 = 6/14$

$2/5 = 4/10$

$2/10$ of purple = $3/4$ of green

$10/10$ of purple = $15/14$ of green

$15 + 14 = 29$

$396\frac{1}{3} \div 29 = 13\frac{2}{3}$

$13\frac{2}{3} \times 15 = 205\text{m}$

14) $0.6 = 60\%$

$60\% \times 20\% = 12\%$

$60\% - 12\% = 48\%$

$48\% \times 2 = 96\%$

$100\% - 96\% = 4\%$

$108/4 \times 96 = 2592$

15) $\sqrt{36} = 6$

$6 \times 4 = 24$

$\frac{1}{2} \times 3.14 \times 24 = 37.68$

$37.68 + 24 = 61.68$

$$16)a) 90/250 \times 100\% = 36\%$$

$$b) 90 + 70 = 160$$

$$160 \div 2 = 80$$

$$250 - 160 - 80 = 10$$

$$17) 24 \div 4 = 6$$

$$6 \times 2 = 12$$

$$14 \times 12 = 168$$

$$42 - 14 - 6 = 22$$

$$\frac{1}{2} \times 22 \times 12 = 132$$

$$6 \times 6 = 36$$

$$36 \times 2 = 72$$

$$12 \times 6 = 72$$

$$\frac{1}{2} \times 3.14 \times 6 \times 6 = 56.52$$

$$72 - 56.52 = 15.48$$

$$15.48 + 72 = 87.48$$

$$87.48 + 132 + 168 = 387.48 \text{ cm}^2$$

$$18) 1 - \frac{1}{4} = \frac{3}{4}$$

$$\frac{1}{6} \times \frac{3}{4} = \frac{1}{8}$$

$$\frac{1}{4} = \frac{2}{8}$$

$$\frac{2}{8} + \frac{1}{8} = \frac{3}{8}$$

$$\frac{3}{8} = \frac{15}{40}$$

$$\frac{3}{10} = \frac{12}{40}$$

$$1 - \frac{2}{5} = \frac{3}{5}$$

$$\$180 \div 3 = \$60$$

$$\frac{1}{5} \text{ of the rest of the money} = \frac{1}{10} \text{ of salary} + \$60$$

$$\frac{5}{5} \text{ of the rest of the money} = \frac{5}{10} \text{ of salary} + \$300$$

$$\frac{5}{10} = \frac{20}{40}$$

$$1 - \frac{20}{40} - \frac{15}{40} = \frac{5}{40}$$

$$\$60 \times 5 = \$300$$

$$\$300 + \$225 = \$525$$

$$\$525 \div 5 = \$105$$

$$\$105 \times 40 = \$4200$$

