

PEI CHUN PUBLIC SCHOOL
PRELIMINARY EXAMINATION, 2011

MATHEMATICS
PAPER 1
(BOOKLET A)

Additional materials: Optical Answer Sheet (OAS) **Total Time For Booklets A & B : 50 min**

Name _____)

Class : Primary 6

Date : 2 August 2011

INSTRUCTIONS TO CANDIDATES

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL THE QUESTIONS.

SHADE YOUR ANSWERS IN THE OPTICAL ANSWER SHEET (OAS) PROVIDED.

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)

1. What is the value of the digit 4 in 894 723?

(1) 4000

(2) 400

(3) 40

(4) 4

()

2. 679 481 when rounded off to the nearest thousand is _____.

(1) 680 000

(2) 679 000

(3) 679 500

(4) 679 480

()

3. 2 ones, 6 tenths and 9 thousandths is _____.

(1) 0.269

(2) 2.069

(3) 2.609

(4) 2.69

()

4. Find the value of $3n + 17$ when $n = 5$.

- (1) 52
- (2) 32
- (3) 25
- (4) 22

5. Express $6\frac{3}{4}$ kg in g.

- (1) 6.75 g
- (2) 675 g
- (3) 6075 g
- (4) 6750 g

()

6. A movie ended at 10.30 p.m. It was 1 h 45 min long. What time did the movie start?

- (1) 00 15
- (2) 08 45
- (3) 12 15
- (4) 20 45

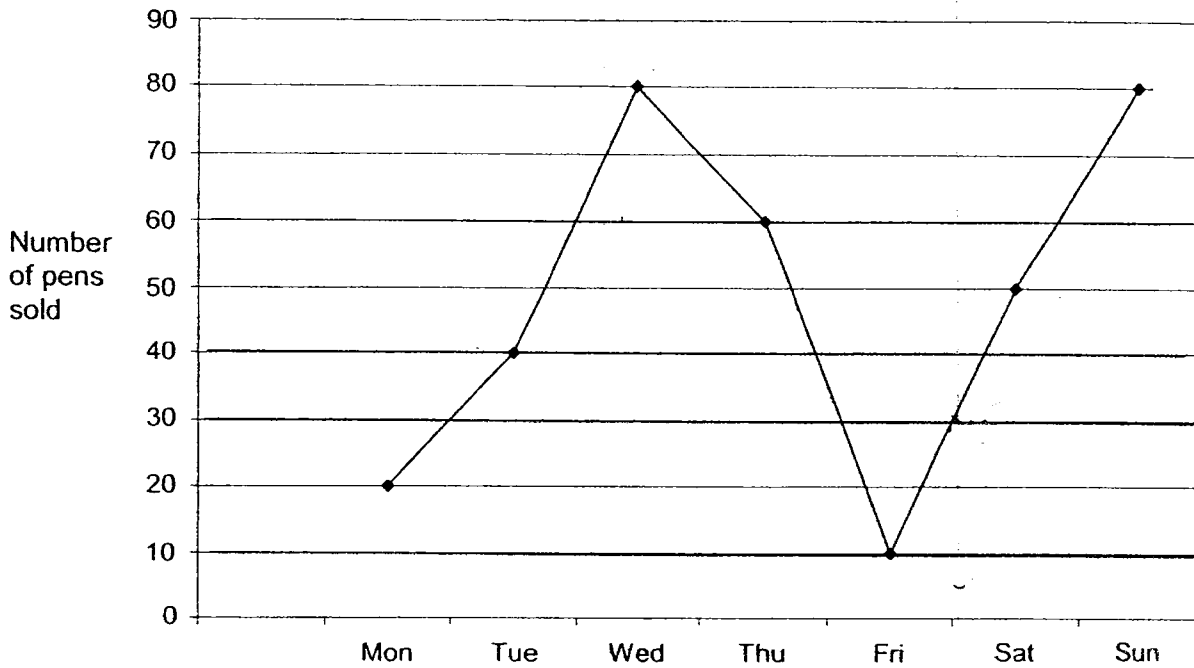
()

7. The price of a packet of biscuits was increased from 60 cents to 90 cents. Find the percentage increase in the price.

- (1) 30%
- (2) $33\frac{1}{3}\%$
- (3) 50%
- (4) $66\frac{2}{3}\%$

()

8. The graph below shows the number of pens sold by Mr Johnson over a week.



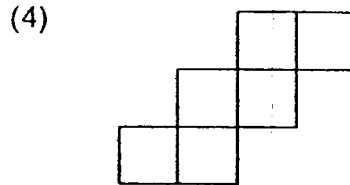
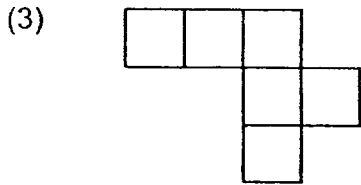
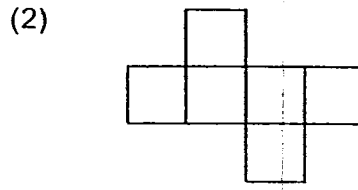
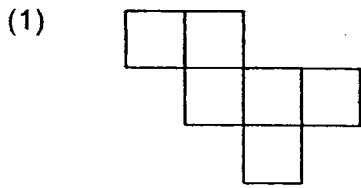
Between which two days was there the smallest increase in the number of pens sold?

- (1) Monday and Tuesday
- (2) Tuesday and Wednesday
- (3) Friday and Saturday
- (4) Saturday and Sunday ()

9. Find the value of $\frac{5}{8} \div \frac{1}{10}$.

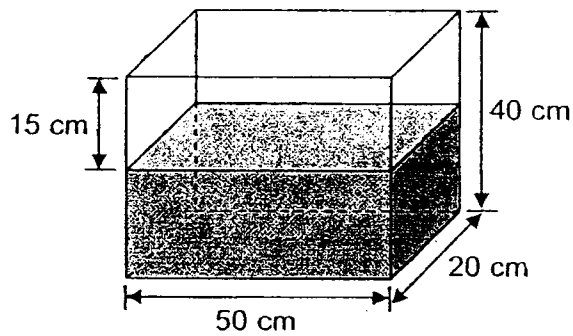
- (1) $\frac{1}{16}$
- (2) $\frac{4}{25}$
- (3) $6\frac{1}{4}$
- (4) 16 ()

10. Which of the following is **not** a net of a cube?



()

11. The figure below shows a rectangular tank filled with some water.

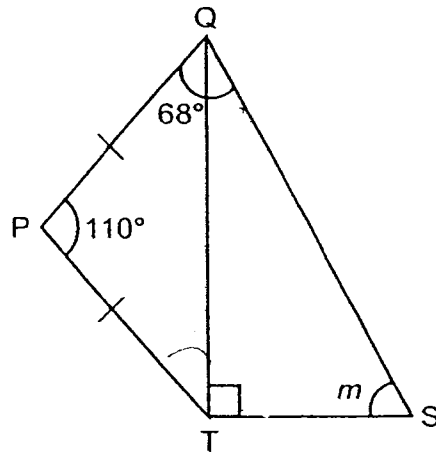


Siti poured some water into the tank until it was $\frac{3}{4}$ full. How much water did she pour into the tank?

- (1) 5000 cm³
- (2) 25 000 cm³
- (3) 30 000 cm³
- (4) 150 000 cm³

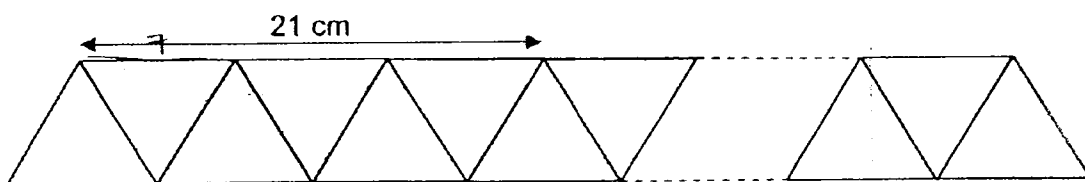
()

12. The figure below is made up of 2 triangles. $PQ = PT$ and $\angle PQS$ is 68° .



Find $\angle m$.

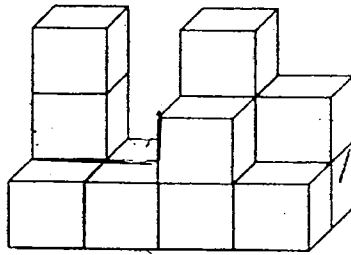
- (1) 70°
 - (2) 57°
 - (3) 56°
 - (4) 33°
13. Some identical equilateral triangles are used to form a trapezium as shown partially below.



If the perimeter of the trapezium is 735 cm, how many triangles are used to form the trapezium?

- (1) 103
 - (2) 104
 - (3) 105
 - (4) 107
- ()

14. Raj pasted 14 identical cubes to form the solid figure shown below. He then painted the whole solid figure yellow, including the base.



How many cubes have exactly 3 faces painted yellow?

- (1) 5
(2) 2
(3) 3
(4) 4 ()
15. At a children's party, the number of children was $\frac{5}{8}$ of the number of parents. Each child came with either one parent or two parents. What fraction of the children brought along two parents?

- (1) $\frac{2}{13}$
(2) $\frac{3}{13}$
(3) $\frac{2}{5}$
(4) $\frac{3}{5}$ ()

End of Booklet A

PEI CHUN PUBLIC SCHOOL
PRELIMINARY EXAMINATION, 2011

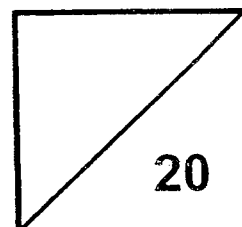
MATHEMATICS
PAPER 1
(BOOKLET B)

Total Time For Booklets A & B : 50 min

Name :

Class : Primary 6

Date : 2 August 2011



INSTRUCTIONS TO CANDIDATES

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

SHOW YOUR WORKING CLEARLY AS MARKS ARE AWARDED FOR CORRECT WORKING.

WRITE YOUR ANSWERS IN THIS BOOKLET.

YOU ARE **NOT** ALLOWED TO USE A CALCULATOR.

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)

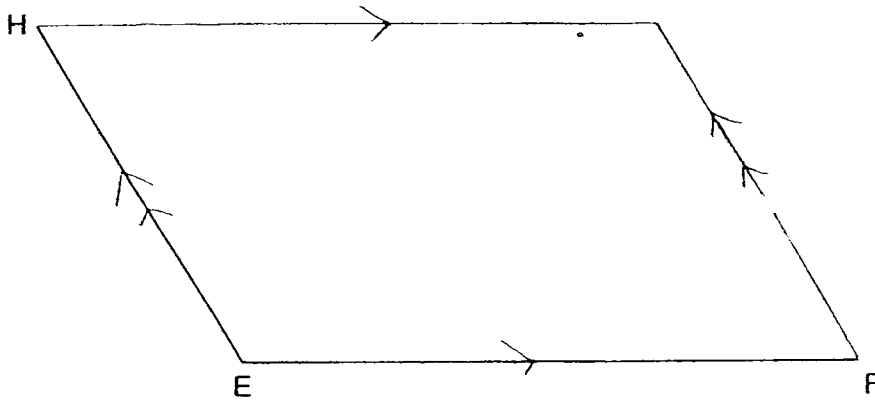
Do not write
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16. What is the missing number in the box below?

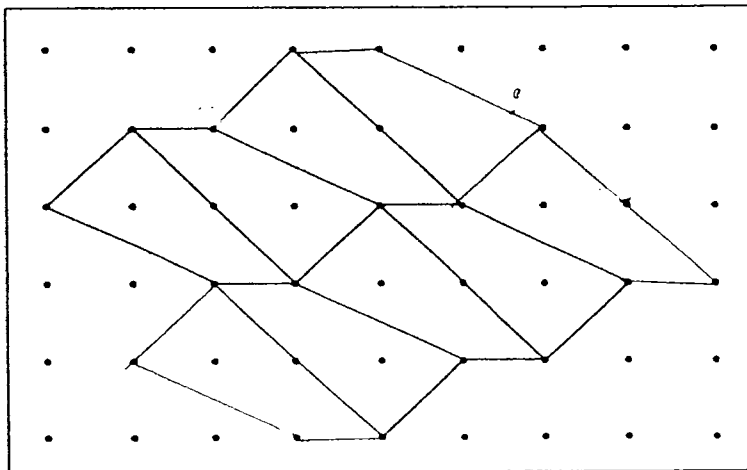
$$37.104 = 30 + 7 + \frac{10}{10} + \frac{4}{\boxed{?}}$$

Ans : _____

17. In the figure below, draw two lines FG and HG such that $FG \parallel EH$ and $HG \parallel EF$.



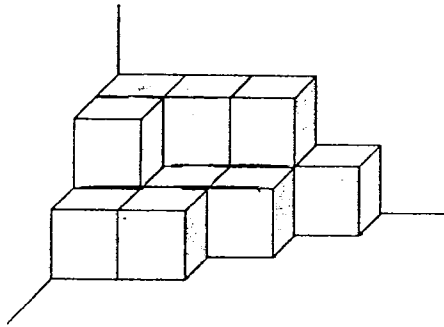
18. The pattern in the box shows part of a tessellation. Extend the tessellation by drawing **three** more unit shapes in the space provided within the box.



SCORE

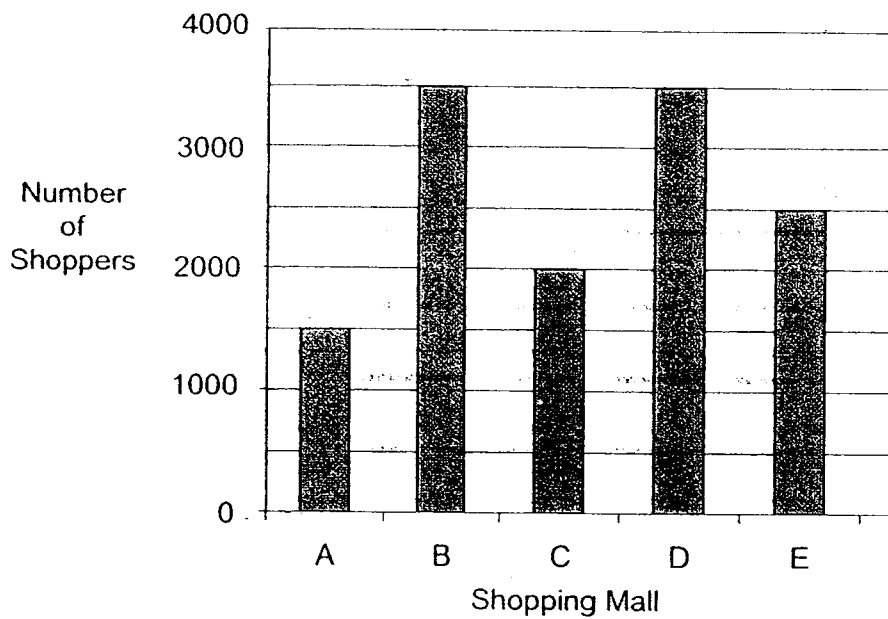
19. The solid figure below is made up of some identical cubes. How many cubes are there in the solid figure?

Do not write in this space



Ans : _____

20. The bar graph shows the number of shoppers in five shopping malls yesterday.



Express the number of shoppers in Mall D as a fraction of the total number of shoppers in the five malls.

Ans : _____

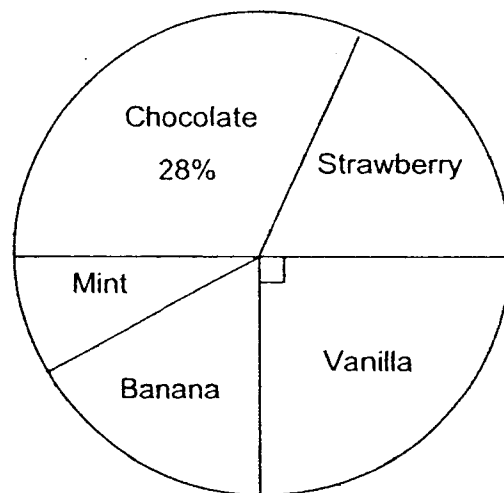
SCORE

21. At a concert, the ratio of the number of children to the number of adults was 5 : 3. There were 68 more children than adults. How many people were at the concert?

Do not write
in this space

Ans : _____

22. A group of children were asked to choose their favourite ice-cream flavour from five flavours. The pie chart below shows their choices. Half of the children chose either chocolate or strawberry flavor as their favourite.



If 50 children chose vanilla flavour, how many children chose strawberry flavour?

Ans : _____

143

SCORE

23. Look at the pattern below.

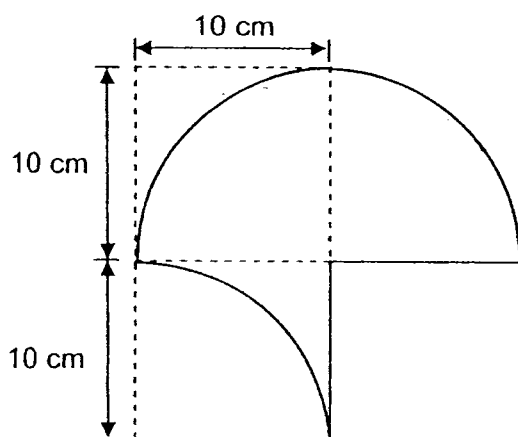
Do not write
in this space

Pattern	Number
1	1
2	2
3	3
④	④
5	2
6	3
7	4
⑧	⑤
9	3
10	4
11	5
⑫	⑥
13	7
14	8
15	9
?	16

At which pattern will the number 16 first appear?

Ans : _____

24. Find the perimeter of the figure below. (Take $\pi = 3.14$)

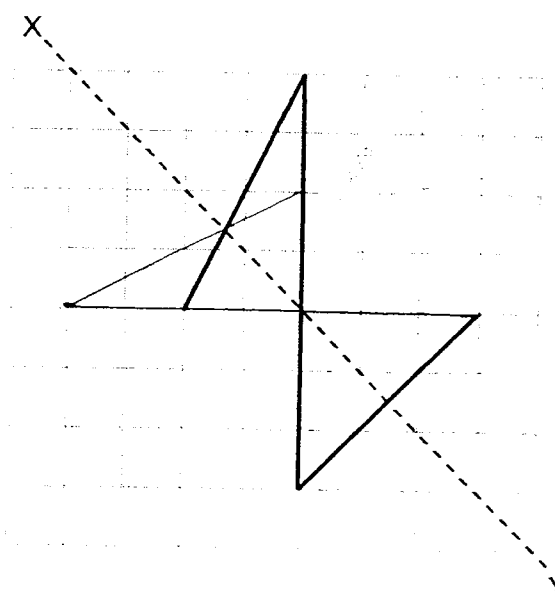


Ans : _____ cm

SCORE

25. Complete the figure below so that the dotted line XY is the line of symmetry.

25. Complete the figure below so that the dotted line XY is the line of symr



units, give your answers in the units stated.

space below
high require
(10 marks)

26. A fruit seller bought 10 boxes of pears. There were 56 pears in each box. He sold 120 pears on Monday and 40% of the remainder on Tuesday. How many pears had the fruit seller left?

Ans : _____

145

SCORE

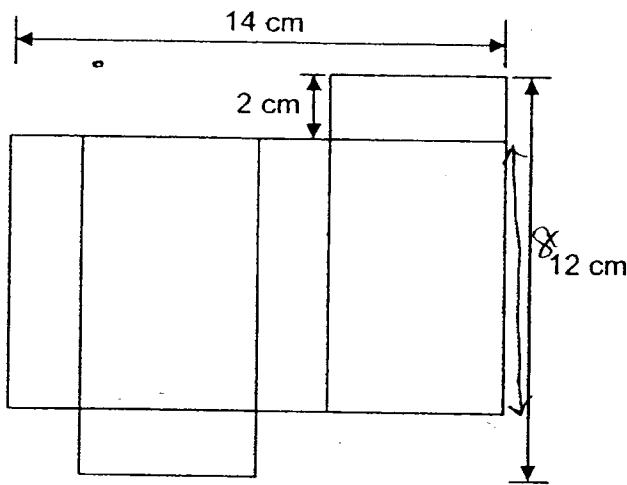
27. The table below shows the photocopy charges at a shop.

Charges	
50 pages and fewer	10¢ each
Additional pages	5¢ each

Ken wants to photocopy 75 pages. How much will he have to pay?

Ans : \$ _____

28. The figure below shows the net of a cuboid.



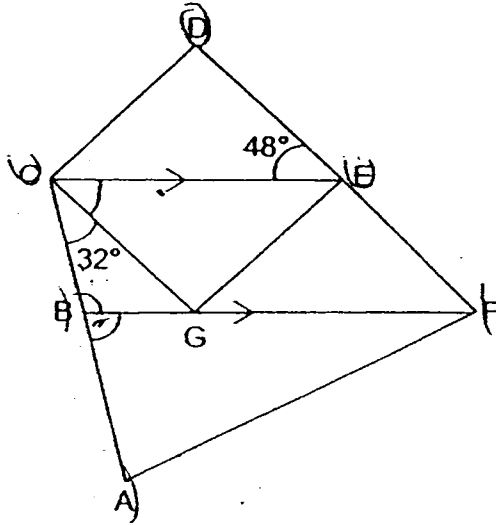
What is the volume of the cuboid?

Ans : _____ cm³

SCORE

29. In the figure below, CDEG is a rhombus and $CE \parallel BF$. ABC and DEF are straight lines. Find $\angle ABG$.

Do not write
in this space



Ans : _____

30. Jugs X, Y and Z contained a total of 600 cm^3 of water. Some water from Jug X was poured into Jug Y and the volume of water in Jug Y was doubled. Then, some water from Jug Y was poured into Jug Z and the volume of water in Jug Z was doubled. After this, the volume of water in each jug was equal. How much water was there in jug X at first?

Ans : _____ cm^3

PEI CHUN PUBLIC SCHOOL
PRELIMINARY EXAMINATION, 2011

MATHEMATICS
PAPER 2

Time: 1 h 40 min

Name :

Class : Primary 6

Date : 2 August 2011

Parent's Signature:

Paper 1 (Booklet A)	20
Paper 1 (Booklet B)	20
Paper 2	60
TOTAL	100

INSTRUCTIONS TO CANDIDATES

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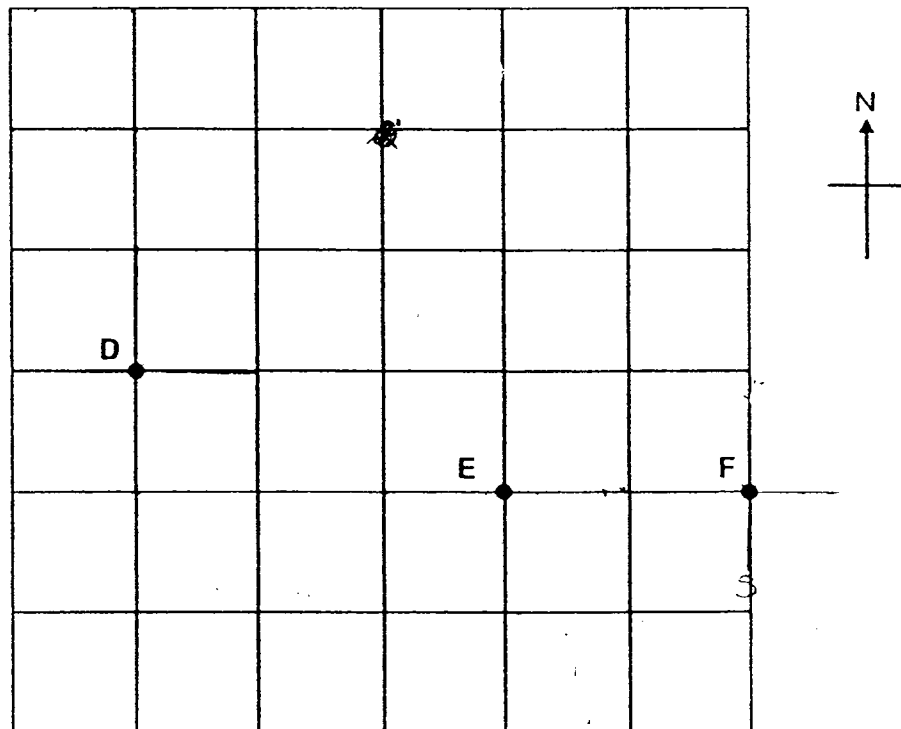
WRITE YOUR ANSWERS IN THIS BOOKLET.

YOU ARE ALLOWED TO USE A CALCULATOR.

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)

Do not write in this space

1. Refer to the square grid below and answer the questions that follow.



- (a) Draw a dot on the grid above so that it is north-west of F and north-east of D. Label the dot K.
- (b) In which direction is point E from point F?

Ans : (b) _____

2. Ryan scored 80 marks in a test. Sam scored p marks more than Ryan. Sam scored 4 marks less than Ted. Find the average mark that the three boys scored in the test in terms of p .

Ans :

SCORE

3. Jim bought 5 pens and 1 ruler with $\frac{4}{9}$ of his money. Each pen cost thrice as much as a ruler. How many rulers could Jim buy with the remaining money?

Ans : _____

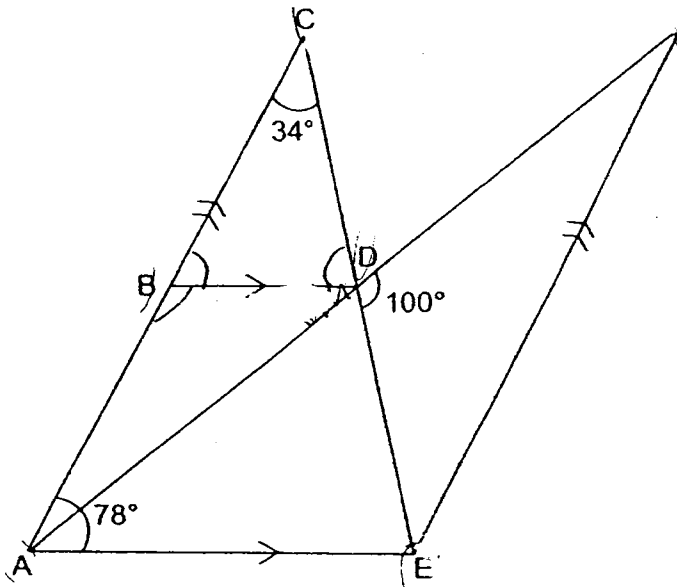
4. Amy, Ben and Caleb shared a sum of money. Amy and Ben received the same amount of money. The ratio of the total amount of money Amy and Ben received to the total amount of money Ben and Caleb received was 4 : 9. What fraction of the sum of money did Caleb receive?

Ans : _____

SCORE

5. In the figure below, ABC, CDE, ADF are straight lines. $AC \parallel EF$, $BD \parallel AE$ and $\angle BAE = 78^\circ$. Find $\angle ADB$.

Do not write
in this space



Ans : _____ °

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. (Total: 50 marks)

Do not write
in this space

6. Every month, Lynn donates \$520 of her salary to charity. She spends $\frac{3}{8}$ of her remaining salary and saves the rest. If Lynn saves \$550 every month, what fraction of her salary does she donate to charity every month? Give your answer in its simplest form.

Ans : _____

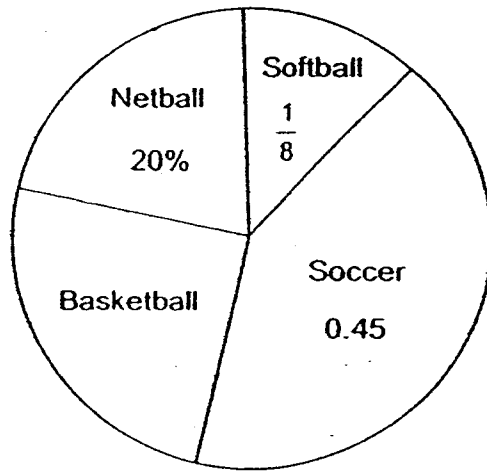
7. 1 kg of prawns cost as much as 1.5 kg of squids. Penny paid a total of \$74.75 for 2 kg of squids and 3 kg of prawns. What was the cost of 1 kg of prawns?

Ans : _____ [3]

SCORE

8. A group of 360 children were asked to choose their favourite ball games. The pie chart below represents the favourite ball games they chose. How many children chose basketball?

Do not write
in this space



Ans : _____ [3]

9. On Tuesday, Rosnah borrowed a 500-page book. From Tuesday to Friday, she read an average of 65 pages per day. What was the average number of pages read by Rosnah on Saturday and Sunday if she finished reading the book on Sunday night?

Ans : _____ [3]

SCORE

10. A cuboid measuring 150 cm by 100 cm by 20 cm was melted and made into two cubes of different sizes. The volume of the smaller cube is $\frac{3}{7}$ of the volume of the larger cube. Find the length of the side of the larger cube. Give your answer correct to the nearest whole number.

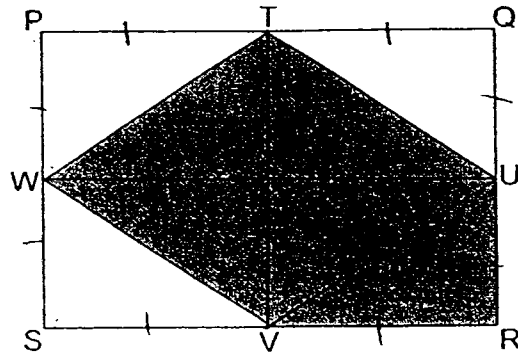
Do not write
in this space

Ans : _____ [3]

SCORE

11. The figure below shows a rectangle PQRS. The perimeter of PQRS is 112 m. $PT = TQ = SV = VR$ and $PW = WS = QU = UR$. The ratio of the length PQ to the length PS is 4 : 3. What is the area of the shaded part?

Do not write
in this space



Ans : _____ [4]

SCORE

157

12. A motorcyclist travelled from Town A to Town B. It passed a taxi travelling from Town B to Town A. The taxi was traveling at a speed of 90 km/h. The motorcyclist reached Town B $1\frac{1}{2}$ hours after passing the taxi but the taxi was still 25 km away from Town A. Both the motorcyclist and the taxi did not change their speeds throughout their journeys. If the motorcyclist took 4 hours to complete the whole journey, what was the distance between the two towns?

Do not write
in this space

SCORE

13. There were some balls in Boxes A, B and C. For every 3 balls in Box A, there were 7 balls in Box B. For every 5 balls in Box B, there were 6 balls in Box C. After 48 balls were transferred from Box C to Box A, the ratio of the number of balls in Box A to the number of balls in Box B to the number of balls in Box C became 19 : 35 : 38. Find the total number of balls in the three boxes.

Do not write
in this space

Ans : _____ [4]

SCORE

159

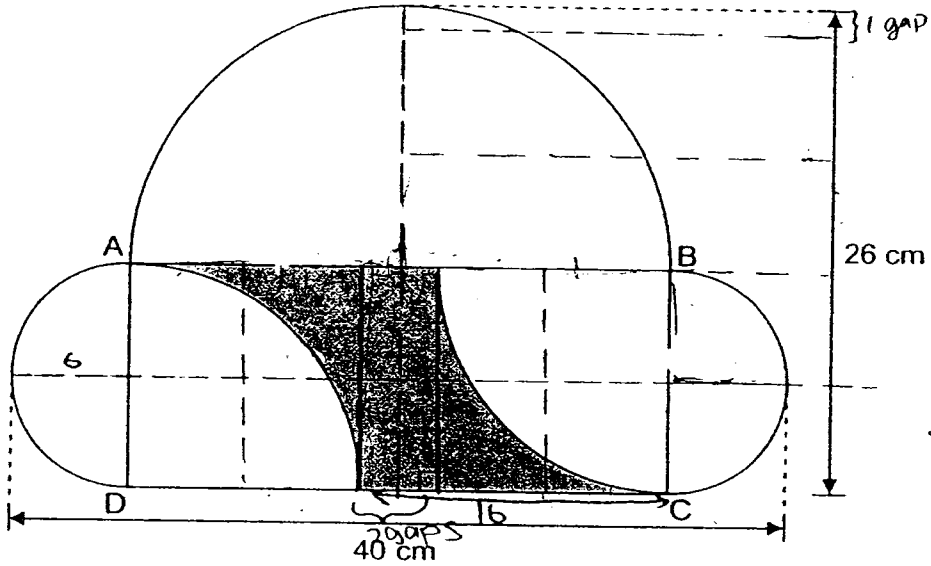
14. The figure below is made up of 3 semicircles, 2 quarter circles and a shaded part. ABCD is a rectangle.

Do not write in this space

(a) What is the perimeter of the shaded part?

(b) What is the area of the shaded part?

(Take $\pi = 3.14$)



Ans : (a) _____ [3]

(b) _____ [2]

SCORE

15. At a furniture shop, chairs are sold at \$184 each. For every 3 chairs a customer buys, he can buy another chair at a discount of \$10. What is the greatest number of chairs Mrs Pang can buy with \$2546?

Do not write
in this space

Ans : _____ [4]

SCORE

16. Each of the figures below is made up of 1-cm sticks.

Do not write
in this space

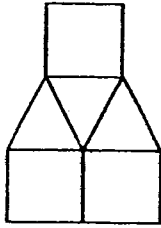


Figure 1

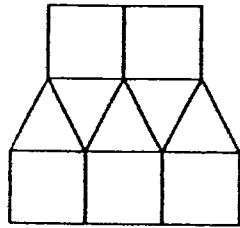


Figure 2

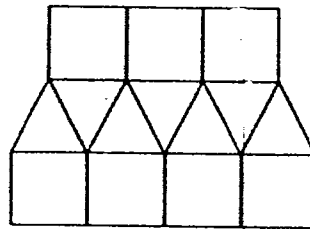


Figure 3

The table shows the number of sticks used to make the above figures and their perimeters.

Figure	Number of sticks	Perimeter of figure (cm)
1	15	9
2	23	11
3	31	13
...
11		29

- (a) Complete the table above for Figure 11. [1]
- (b) What is the perimeter of Figure 179?
- (c) Which figure requires a total number of 4151 sticks?

(b) _____ [2]

(c) _____ [2]

SCORE

17. 94 children took part in a lucky draw and 32 of them won a prize. $\frac{1}{8}$ of the girls and $\frac{4}{5}$ of the boys won a prize. How many girls did not win a prize?

Do not write
in this space

Ans : _____ [5]

18. At first, Ella had \$52 more than Felix. After Ella had spent 25% of her money and Felix had spent $\frac{3}{5}$ of his, Ella had \$123 more than Felix. How much money did Ella have at first?

Do not write
in this space

Ans : _____ [4]

End of Paper 2

Pei Chun Public School
Preliminary Examination, 2011
Mathematics, Primary 6
Paper 1 (Booklet A)

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

Booklet B

Q16) 1000 | Q19) $5 + 4 = 4 = \underline{13}$

Q20) total shoppers = $3500 + 3500 = 2000 = 2500 = 1500 = 13000$

Fraction = $\frac{3500}{13000} = \frac{7}{26}$

Q21) 2 units = 68 | 8units = $(68 / 2) \times 8 = \underline{272}$

Q22) $50\% - 28\% = 22\%$ | $25\% = 50$ | $1\% = 2$ | $22\% = \underline{44}$

Q23) Pattern = $16 - 3 = 13$ | Pattern = $13 \times 4 = \underline{52}$

Q24) $3.14 \times 20 = 62.8$ | $62.8 / 4 = 15.7$ | $15.7 \times 3 = 47.1$

Perimeter = $47.1 + 10 + 10 = \underline{67.1\text{cm}}$

Q26) $10 \times 56 = 560$ | $560 - 120 = 440$ | $440 \times 60\% = \underline{264}$

Q27) $50 \times 0.1 = 5$ | $75 - 50 = 25$ | $25 \times 0.05 = 1.25$

$5 + 1.25 = \underline{\$6.25}$

Q28) $12 - 2 - 2 = 8$ | $14 - 2 - 2 = 10$ | $10 / 2 = 5$ | $5 \times 8 \times 2 = \underline{80}$

Q29) CGE = $180 - 48 - 48 = 84$ | CBF = $180 - 32 - 48 = 100$

ABG = $180 - 100 = \underline{80\text{degrees}}$

Q30) 1 unit = $600 / 3 = 200$ | Jug Y to Jug Z = $200 / 2 = 100$

Total = $200 + 100 = 300$ | Jug X to Jug Y = $300 / 2 = 150$

Jug X = $200 + 150 = \underline{350}$

Paper 2

Q1b) West

$$\text{Q2) Sam} = (80+p) \quad | \quad \text{Ted} = (80+p+4)$$

$$\text{Total} = 80+80+80+4+p+p = 244+2p \quad | \quad \text{Average} = \left(\frac{244 + 2p}{3} \right)$$

$$\text{Q3) 1 unit} = \frac{4}{9} / 16 = \frac{1}{36} \quad | \quad \text{Rulers he can buy} = \frac{20}{36} / \frac{1}{36} = \underline{20 \text{ rulers}}$$

$$\text{Q4) Amy + Ben} = 4 = 2:2 \quad | \quad \text{Ben + Caleb} = 9 = 2:7$$

$$\text{Amy + Ben + Caleb + T} = 2:2:7:11 \quad | \quad \text{Fraction} = \frac{7}{11}$$

$$\text{Q5) ABD} = 180 - 78 = 102 \quad | \quad \text{CBD} = 180 - 102 = 78$$

$$\text{CDB} = 180 - 78 - 34 = 68 \quad | \quad \text{ADB} = 100 - 68 = \underline{32}$$

$$\text{Q6) 5 units} = 550 \quad | \quad \text{8 units} = (550/5) \times 8 = 880 \quad | \quad \text{Total} = 520 + 880 = 1400$$

$$\text{Fraction} = \frac{520}{1400} = \frac{13}{35}$$

$$\text{Q7) 13 units} = 74.75 \quad | \quad \text{1 unit} = 74.75 / 13 = 5.75 \quad | \quad \text{3 units} = 5.75 \times 3 = \underline{\$17.25}$$

$$\text{Q8) Soccer} = 360 \times 45\% = 162 \quad | \quad \text{Netball} = 360 \times 20\% = 72$$

$$\text{Softball} = 360 / 8 = 45 \quad | \quad \text{Basketball} = 360 - 45 - 72 - 162 = \underline{81}$$

$$\text{Q9) Tue - Fri} = 65 \times 4 = 260 \quad | \quad \text{Remaining} = 500 - 260 = 240$$

$$\text{Average no. of pages} = 240 / 2 = \underline{120}$$

$$\text{Q10) 10 units} = 150 \times 100 \times 20 = 300000 \quad | \quad \text{7 units} = (300000/10) \times 7 = 210000$$

$$\text{Length of cube} = \sqrt[3]{210000} = \underline{59\text{cm}}$$

$$\text{Q11) 14 units} = 112 \quad | \quad \text{4 units} = \frac{112}{4} \times 4 = 32 \quad | \quad \text{3 units} = \frac{112}{4} \times 3 = 24$$

$$\text{SV} = 32 / 2 = 16 \quad | \quad \text{SW} = 24 / 2 = 12 \quad | \quad \text{1 triangle} = 0.5 \times 12 \times 16 = 96$$

$$\text{3 triangles} = 96 \times 3 = 288 \quad | \quad \text{Total area} = 32 \times 24 = 768$$

$$\text{Area of shaded part} = 768 - 288 = \underline{480\text{m}^2}$$

Q12) $AC = (4 - 1.5) / 4 = \frac{5}{8}$ | motorcyclist left = $1 - \frac{5}{8} = \frac{3}{8}$ | Taxi left = $\frac{5}{8}$
 $\frac{5}{8} = (90 \times 1.5) + 25 = 160\text{km}$ | $\frac{8}{8} = x \times 8 = \underline{256\text{km}}$

Q13) $15 : 35 : 42 : 92$ | $(15+4) : 35 : (38-4) : 92 = 19 : 35 : 34 : 92$
 $4\text{units} = 48$ | $1\text{unit} = 48 / 4 = 12$ | Total(92 units) = $12 \times 92 = \underline{1104}$

Q14) a) Perimeter of shaded area = $(0.5 \times 3.14 \times 24) + (16 \times 2) = \underline{69.68\text{cm}}$
 b) Area of quadrants = $0.5 \times 3.14 \times 12 \times 12 = 226.08$
 Area of shaded area = $(29 \times 12) - 226.08 = \underline{109.92\text{cm}^2}$

Q15) Discounted price = $184 - 10 = 174$ | 1 group = $(184 \times 3) + 174 = 726$
 $2546 / 726 = 3\text{R}368$ | $368 / 184 = 2$ | Chairs = $3 \times 4 + 2 = \underline{14}$

Q16) a) $23 - 15 = 8$ | $11 - 3 = 8$ | $8 \times 8 = 64$ | $63 + 31 = \underline{95}$
 b) $179 - 1 = 178$ | $178 \times 2 = 356$ | Perimeter = $356 \div 9 = \underline{365\text{cm}}$
 c) $4151 - 15 = 4136$ | $4136 / 8 = 517$ | Figure = $517 + 1 = \underline{518}$

Q17) $8g + 5b = 94$ | $1g + 4b = 32$ | $9g + 9b = 94 + 32 = 162$
 $1g + 1b = 126 / 9 = 14$ | $3b = 32 - 14 = 18$ | $1b = 18 / 3 = 6$
 $1g = 14 - 6 = 8$ | $7g = 8 \times 7 = \underline{56}$ girls did not win a prize

Q18) 7 units = $123 - 39 = 84$ | 1unit = $84 / 7 = 12$
 Ella at first = $(12 \times 20) + 52 = \underline{\$292}$