



NANYANG PRIMARY SCHOOL  
PRELIMINARY EXAMINATION  
2010

PRIMARY 6  
MATHEMATICS  
PAPER 1

DURATION: 50 MINUTES

|           |      |
|-----------|------|
| Booklet A | / 20 |
| Booklet B | / 20 |

|                        |
|------------------------|
| Paper 1 Total:<br>/ 40 |
|------------------------|

Name: \_\_\_\_\_

Class: Primary 6 (            )

Date: 25 August 2010

Parent's Signature: \_\_\_\_\_

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

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

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

**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)

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**1** Which of the following is nine hundred and eighteen thousand and twelve in figures?

(1) 18 912

(2) 91 812

(3) 918 012

(4) 918 120

**2**  $50\ 000 \div 200 = \underline{\hspace{2cm}} \times 5$

(1) 5

(2) 50

(3) 500

(4) 5000

3 Find the value of  $28 + (19 - 17) \times 3 - 12 + 9$ .

(1) 87

(2) 69

(3) 31

(4) 13

4 7 hundreds, 8 tenths and 2 thousandths is \_\_\_\_\_.

(1) 780.002

(2) 700.802

(3) 700.280

(4) 700.082

5 The mass of 4 identical lollipops is 45.08 g. Find the mass of 2 such lollipops.

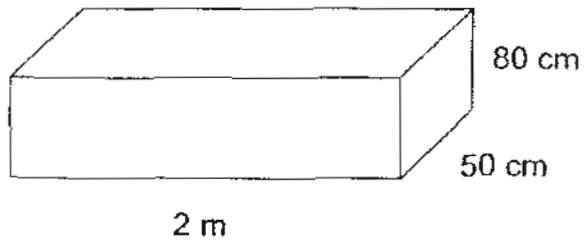
(1) 11.27 g

(2) 22.54 g

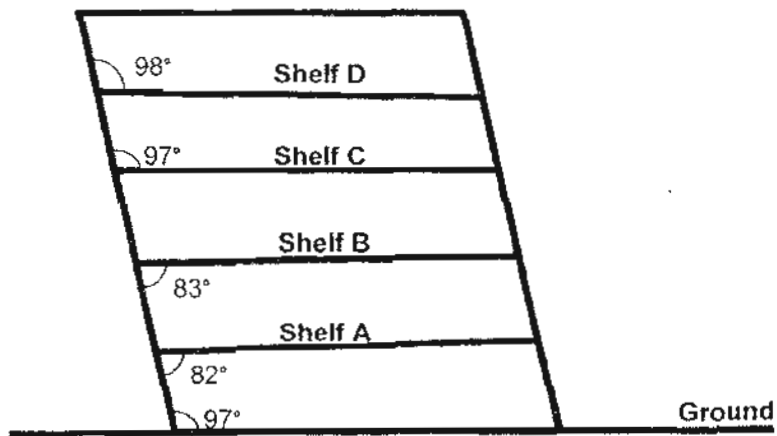
(3) 22.90 g

(4) 90.16 g

- 6 Find the volume of the cuboid shown below.

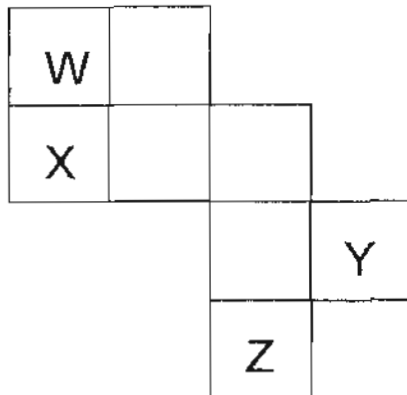


- (1)  $0.008 \text{ m}^3$   
(2)  $0.8 \text{ m}^3$   
(3)  $80 \text{ m}^3$   
(4)  $8\,000 \text{ m}^3$
- 7 Derrick constructed a set of shelves as shown below. Which pair of shelves are parallel to the ground?



- (1) A and C  
(2) A and D  
(3) B and C  
(4) B and D

- 8 Identify the two squares that can be crossed out from the following figure so that the remaining figure will become the net of a cube.



- (1) Z and Y  
(2) Y and X  
(3) Y and W  
(4) X and W
- 9 Shah and Lionel have a sum of money. If Shah spends  $\frac{3}{5}$  of his money and Lionel spends  $\frac{3}{7}$  of his, the two boys will have the same amount of money left. What fraction of the total sum of money is Lionel's money?

- (1)  $\frac{7}{17}$   
(2)  $\frac{10}{17}$   
(3)  $\frac{5}{12}$   
(4)  $\frac{7}{12}$

- 10 Marie's score for Mathematics has improved from 50 marks to 75 marks. What is the percentage increase?

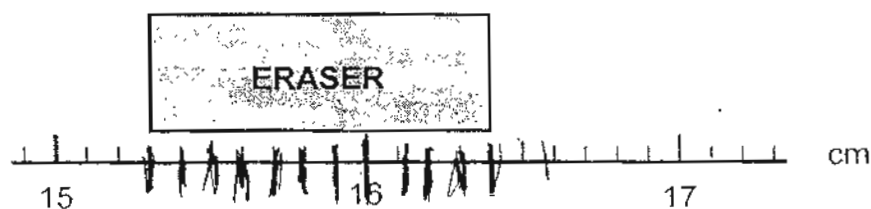
(1)  $33\frac{1}{3}\%$

(2) 50%

(3)  $66\frac{2}{3}\%$

(4) 150%

- 11 What is the total length of 5 erasers identical to the one shown in the figure below?



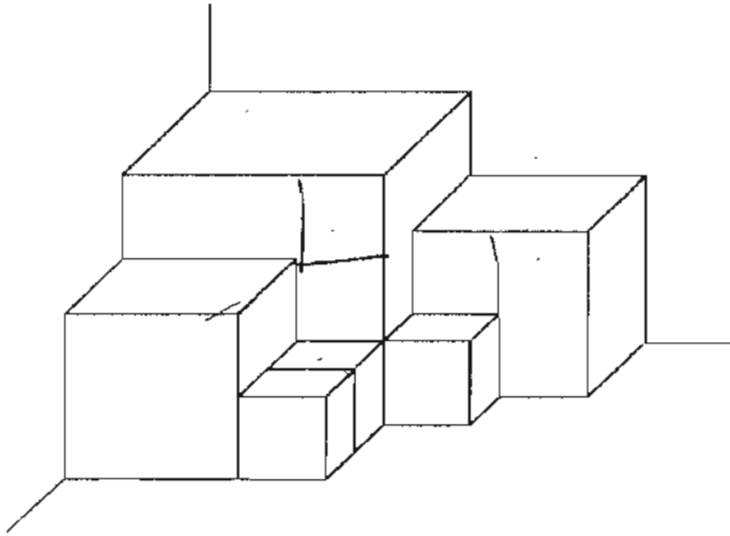
(1) 1.1 cm

(2) 5.5 cm

(3) 76.5 cm

(4) 82 cm

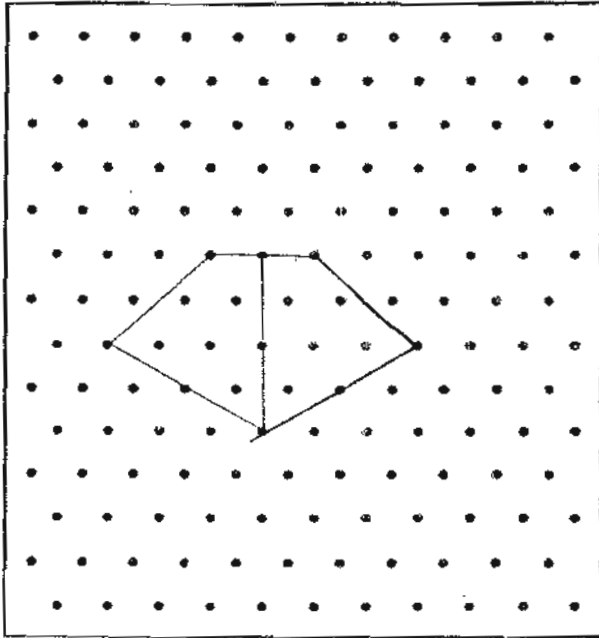
- 12 The figure below is made up of 6 cubes of 3 different sizes. What is the ratio of the total volume of the small cubes to the total volume of the medium cubes to the volume of the large cube?



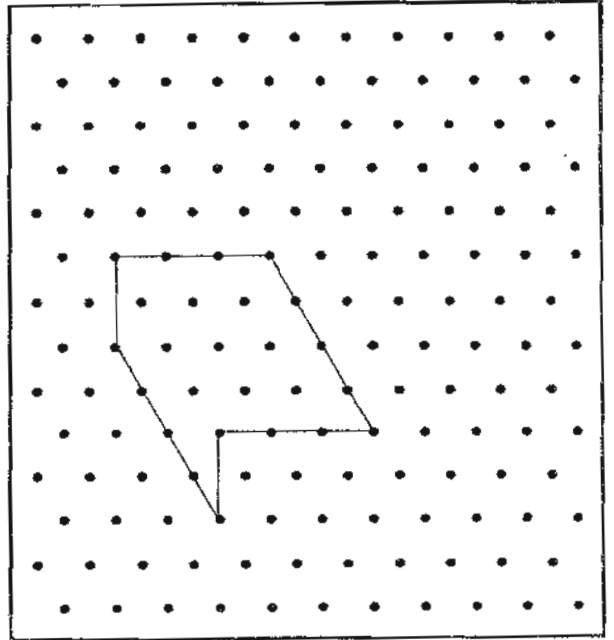
- (1) 3 : 16 : 27  
(2) 3 : 8 : 9  
(3) 3 : 2 : 1  
(4) 1 : 8 : 27

13 Which of the following unit shapes **cannot** be tessellated?

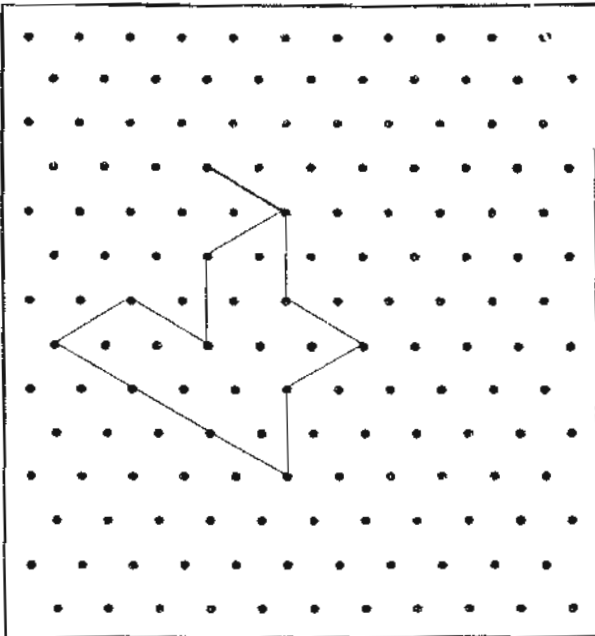
(1)



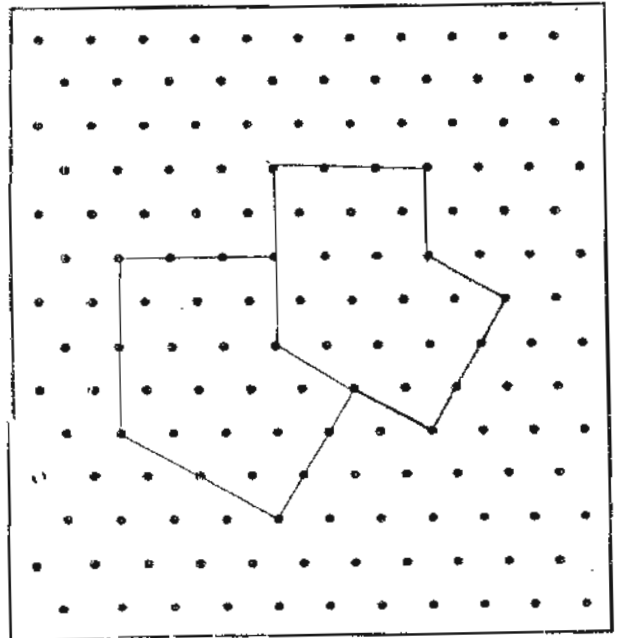
(2)



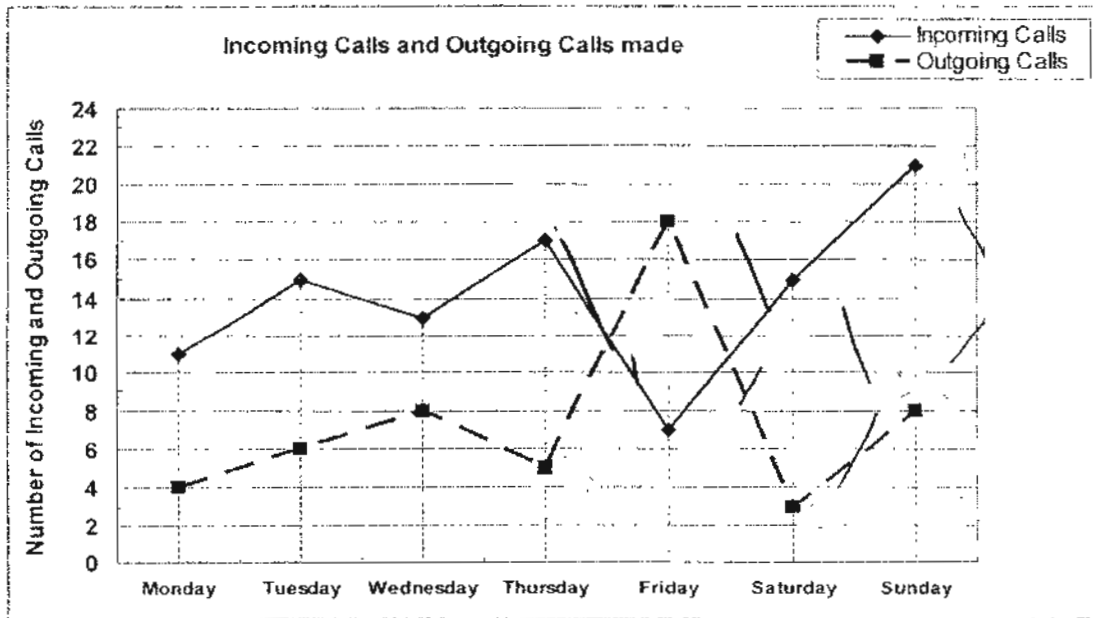
(3)



(4)



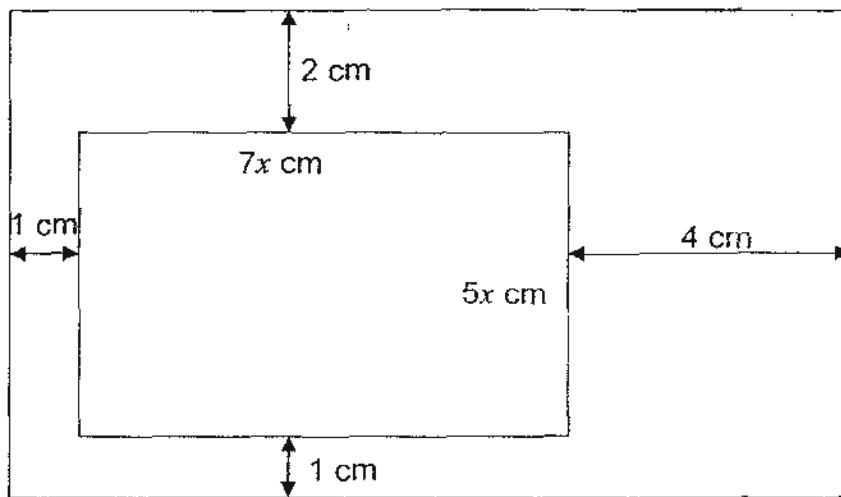
- 14 The line graph shows the number of Incoming calls and Outgoing calls made by Jiemin through her mobile phone over a week.



On which day was there the greatest difference between the number of Incoming calls and Outgoing calls?

- (1) Sunday
- (2) Saturday
- (3) Friday
- (4) Thursday

- 15 Express the perimeter of the following figure in terms of  $x$ .



- (1)  $(12x + 8)$  cm
- (2)  $(12x + 16)$  cm
- (3)  $(24x + 8)$  cm
- (4)  $(24x + 16)$  cm

Name: \_\_\_\_\_ ( ) Class: Pr 6 ( )

P6 PRELIMINARY EXAMINATION 2010

**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 Mr Zhang bought 5908 magnets. He packed all the magnets into boxes of 7. How many boxes were there?

Ans: \_\_\_\_\_

- 
- 17 What is the missing number in the box?  
Express your answer as a mixed number in its simplest form.

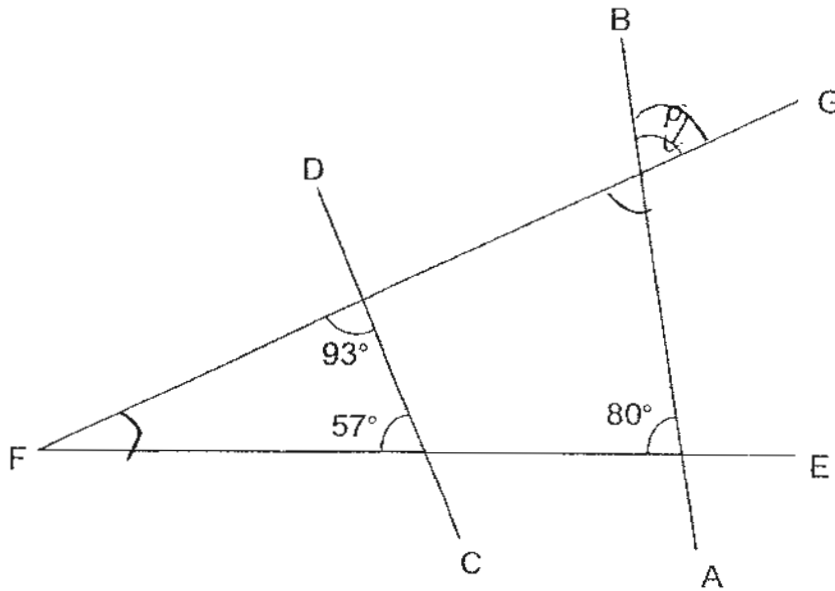
$$1\frac{3}{5} + 2\frac{1}{10} - \boxed{?} = \frac{1}{2}$$

Ans: \_\_\_\_\_

- 
- 18 Find the product of  $2\frac{7}{9}$  and 33. (Give your answer in its simplest form.)

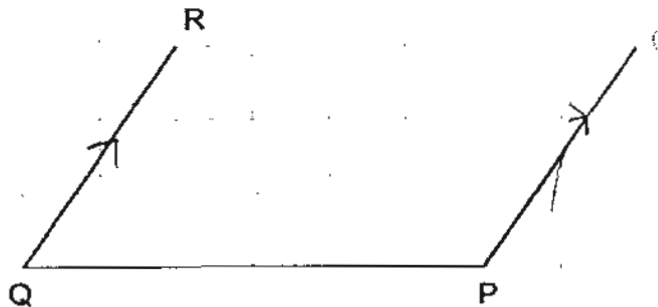
Ans: \_\_\_\_\_

- 19 AB, CD, EF and FG are straight lines. Find  $\angle p$ .



Ans: \_\_\_\_\_°

- 20 The figure below shows two lines, PQ and QR, on a square grid. Draw another line PS such that  $PS \parallel QR$  and  $PS = QR$ . Label it.



- 21 The cost of 3 mangoes is the same as the cost of 5 grapefruits. The cost of 3 mangoes is also the same as the cost of 10 pears. Find the ratio of the cost of a mango to the cost of a grapefruit to the cost of a pear.

Ans: \_\_\_\_\_

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- 22 Jean cycled at a speed of 20 km/h for 15 minutes from her home to her office. What is the distance between Jean's home and office?

Ans: \_\_\_\_\_ km

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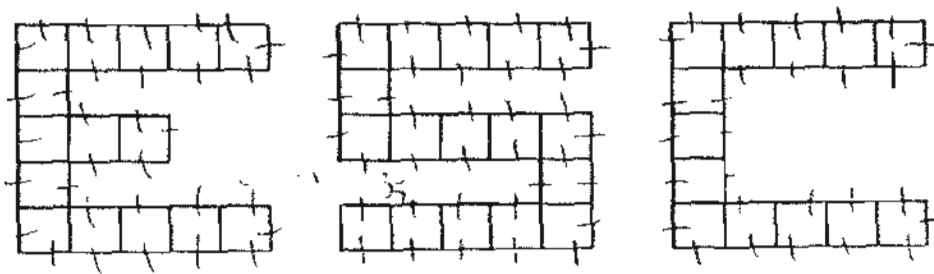
- 23 The masses of an apple and an orange when corrected to the nearest gram are 40 g and 63 g respectively. Calculate the least possible mass of an apple and 2 such oranges.

Ans: \_\_\_\_\_ g

- 24 Mr Tan started work on a sculpture at 1.45 a.m. and completed it at 9.30 p.m. on the same day. How much time did he take to complete the sculpture?

Ans: \_\_\_\_\_ h

- 25 The figures E, S and C given below are made from squares of equal size. Arrange them in an ascending order in accordance to their perimeters.



Ans: \_\_\_\_\_

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 Tap A takes 6 minutes to fill Tank C. Tap B takes 4 minutes to fill Tank C. If Tap A and B are turned on at the same time, how long would they take to fill  $\frac{3}{4}$  of Tank C?

Ans: \_\_\_\_\_ min

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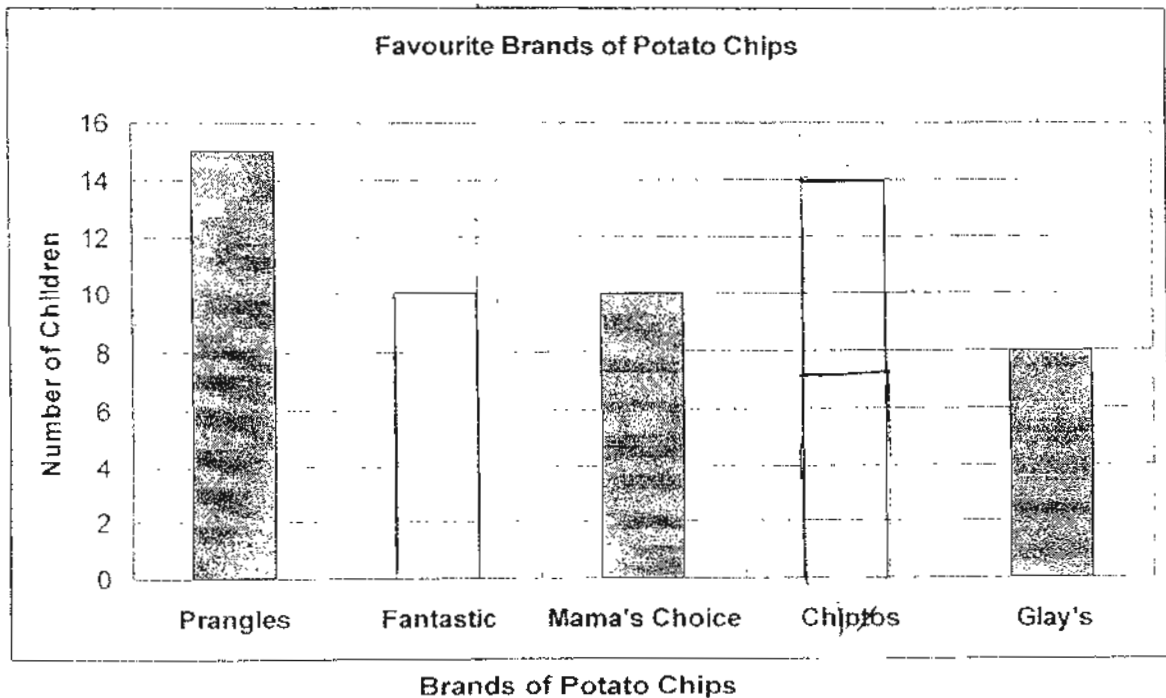
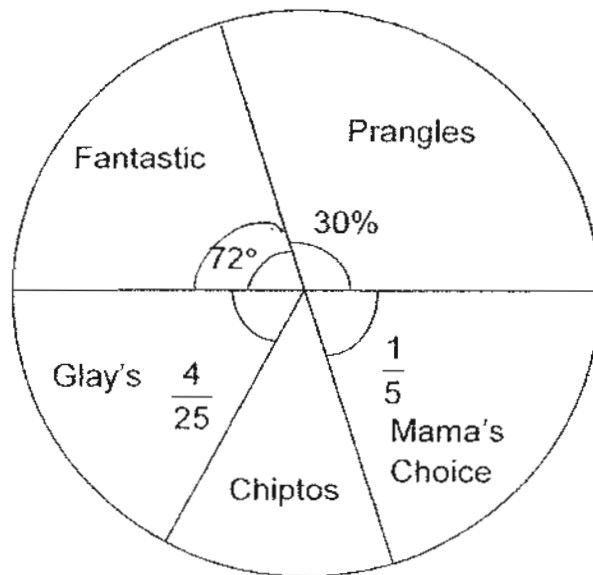
- 27 Ali scores a total of 168 marks for his Mathematics test and English test. He scored  $x$  more marks for his English test than his Mathematics test.
- (a) How many marks did he score for his English test? (Give your answer in terms of  $x$ .)
- (b) How many marks did he score for his English test if  $x = 8$ ?

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_

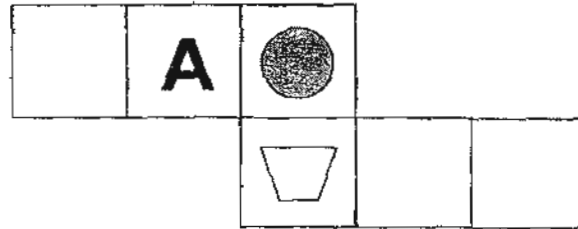
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- 28 The pie chart below shows the result of a survey on the favourite brands of potato chips of 50 children. A bar graph is also drawn to show the same information but it is incomplete. Complete the bar chart with the data given in the pie chart.

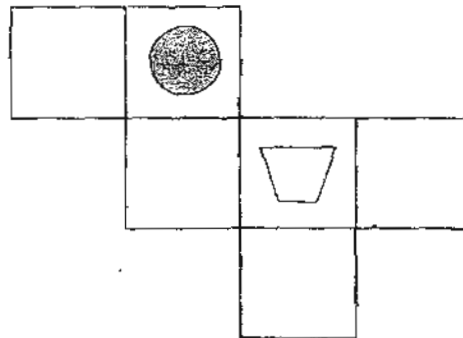


- 29 View 1 and 2 are two nets of the same cube. Using the information given in View 1, put a cross (X) on the face that is opposite the letter A on the cube in View 2.

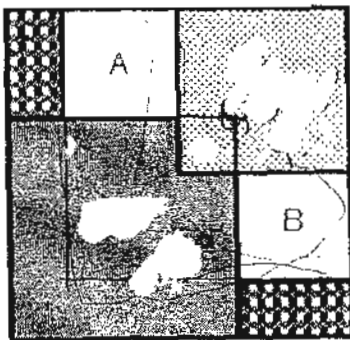
View 1



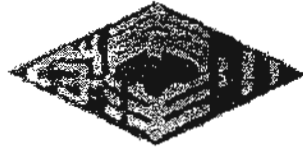
View 2



- 30 The figure below is formed by stacking 4 pieces of square paper one on top of another. The papers have different prints and sizes (of sides 3 cm, 4 cm, 5 cm and 6 cm). The 6-cm piece is placed at the bottom of the stack, followed by the 5-cm piece, then the 4-cm piece and the 3-cm piece is placed right on top. Find the sum of the area A and B.



Ans: \_\_\_\_\_ cm<sup>2</sup>



NANYANG PRIMARY SCHOOL  
SECOND SEMESTRAL EXAMINATION  
2010

PRIMARY 6  
MATHEMATICS  
PAPER 2

DURATION: 1 HOUR 40 MINUTES

|                      |              |
|----------------------|--------------|
| <b>Paper 2 Total</b> | <b>/ 60</b>  |
| <b>GRAND TOTAL</b>   | <b>/ 100</b> |

Name: \_\_\_\_\_ ( )

Class: Primary 6 ( )

Date: 25 August 2010

Parent's Signature: \_\_\_\_\_

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## 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)

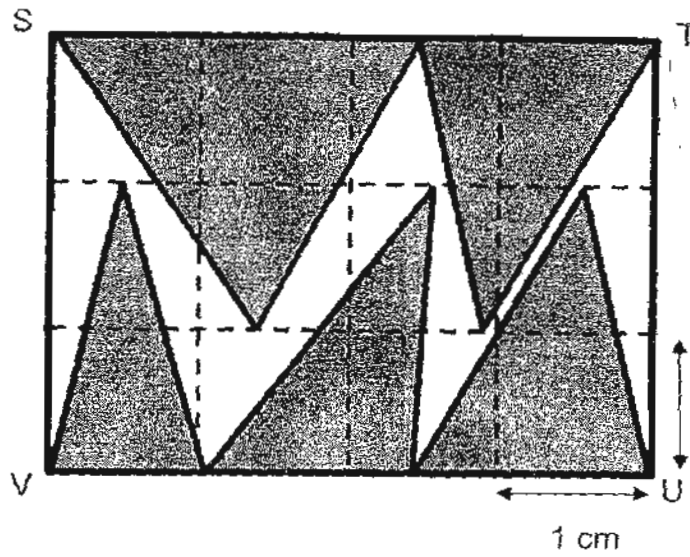
- 
- 1 At the Great Singapore Sale, Jennifer bought a handbag which was on a 30% discount off its original price. She paid \$674.10 which was inclusive of a 7% GST on the discounted price. What was the original price of the handbag?

Ans: \$ \_\_\_\_\_

- 
- 2 Once a computer program is executed, 3 chipmunks will appear on the screen. One minute later, the 3 chipmunks will yawn at the same time. After that, Chipmunk Alwin will yawn at intervals of 60 seconds, Chipmunk Simmon will yawn at intervals of 75 seconds and Chipmunk Tadore will yawn at intervals of 100 seconds. When the 3 chipmunks yawned at the same time for the third time, how many minutes has the program been running?

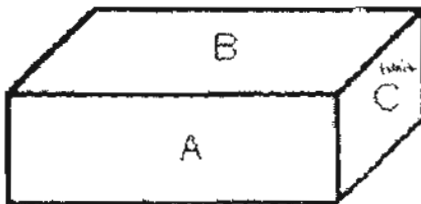
Ans: \_\_\_\_\_ min

- 3 What fraction of the rectangle STUV is shaded?



Ans: \_\_\_\_\_

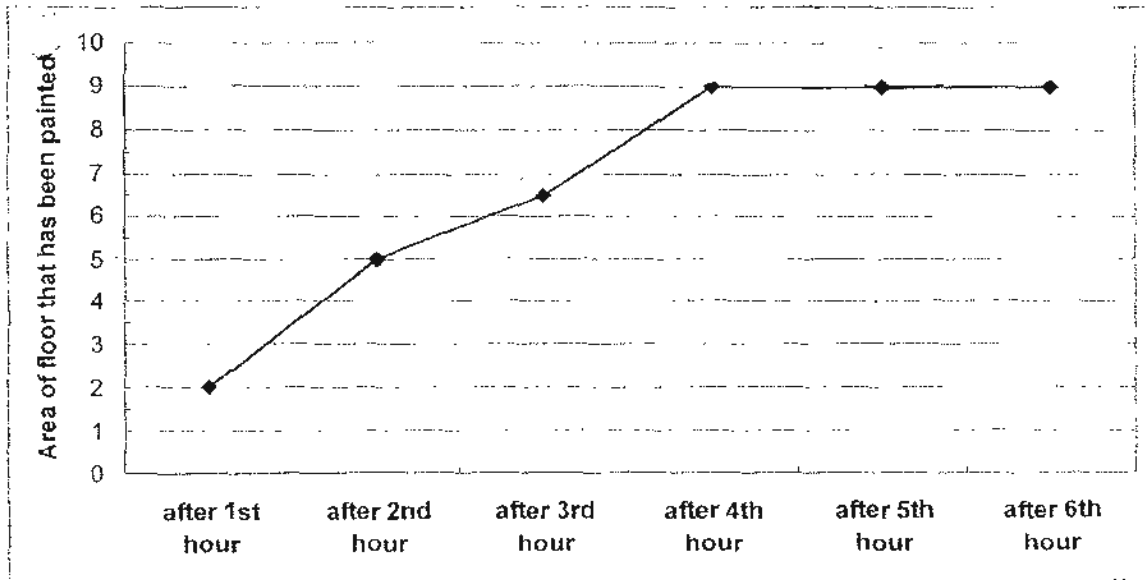
- 4 On the cuboid below, the area of Face B is twice that of Face A and thrice that of Face C. Given that the length of the cuboid is 36 cm, find the volume of the cuboid.



Ans: \_\_\_\_\_  $\text{cm}^3$

5

The floor of a rectangular shaped room was painted by a worker. The line graph below shows the painted area of the floor of the rectangular room at regular time interval till the room was completely painted.



If the breadth of the rectangular room was 2 m, find the perimeter of the room.

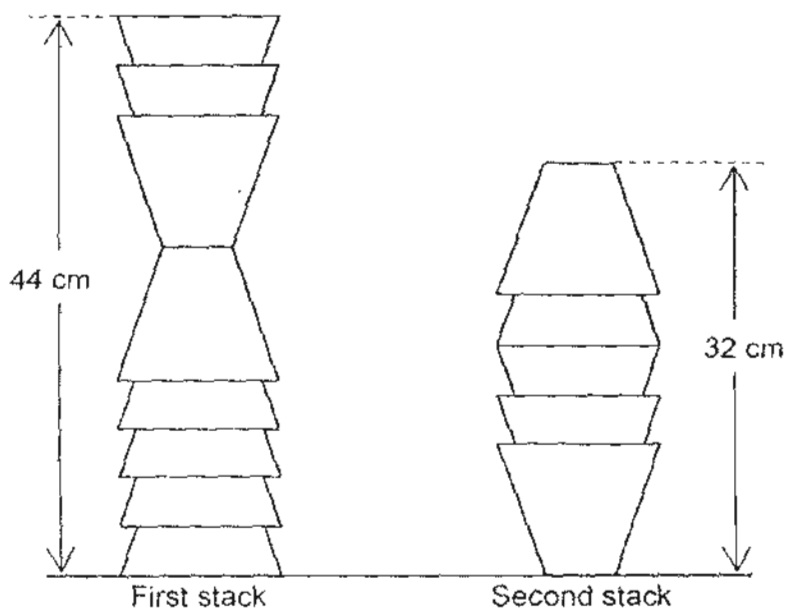
Ans: \_\_\_\_\_ m

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 The figure below shows two stacks of identical glasses. The height of the first stack of 8 glasses is 44 cm. The height of the second stack of 5 glasses is 32 cm.



The height of the space in a shelf is 60 cm. What is the maximum number of glasses that you can put in a single stack to be placed in this shelf?

Ans: [3]

- 7 Mr Lim bought 320 doughnuts for a party at a shop with the following promotions:

**Promotion A**  
Buy 3 and  
Get another 1  
FREE!

**Promotion B**  
Buy 5 and  
Get another 2  
FREE!

Usual Price: \$1.20 per doughnut

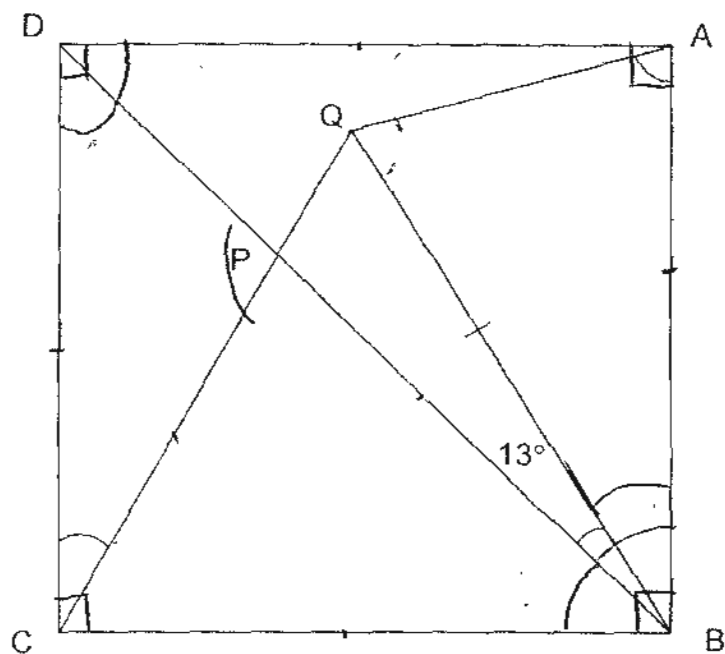
What was the least amount of money that Mr Lim could have paid for the doughnuts?

Ans: \_\_\_\_\_ [3]

- 8 ABCD is a square. QPC and BPD are straight lines.  $BA = BQ$  and  $\angle PBQ = 13^\circ$ .

Find

- (a)  $\angle BAQ$ ,  
 (b)  $\angle DCQ$ .



Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

- 9 In the morning, there were 750 people at a funfair. 30% of them were girls and the rest are boys. In the afternoon, some more girls joined the funfair and the percentage of girls increased to 40% of the total number of people. How many girls joined the funfair in the afternoon?

Ans: \_\_\_\_\_ [3]

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- 10 Kingsley planned to cycle from Town P to Town Q. If he were to cycle at 10 km/h, he would reach Town Q at 7.45 p.m. If he were to cycle at 12 km/h, he would reach Town Q at 7.15 p.m. What was the distance between Town P and Town Q?

Ans: \_\_\_\_\_ [3]

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- 11 Diagram A shows a closed rectangular tank of dimensions 20 cm by 20 cm by 40 cm with a cube of edge 10 cm glued to its bottom left corner. The tank contains 12 litres of water.

Diagram B shows the same rectangular tank lying on its side. Find the height of the water level, in centimeters, corrected to 2 decimal places.

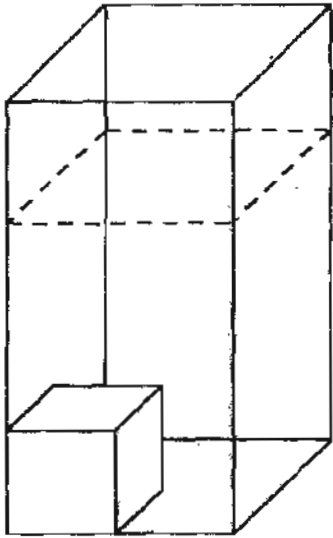


Diagram A

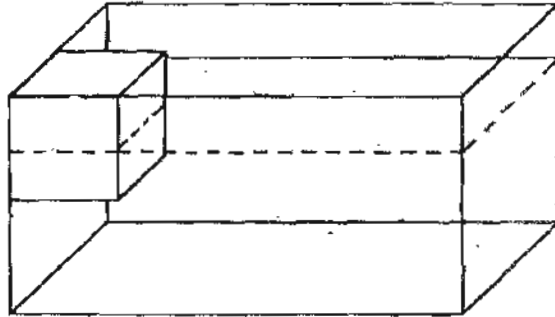


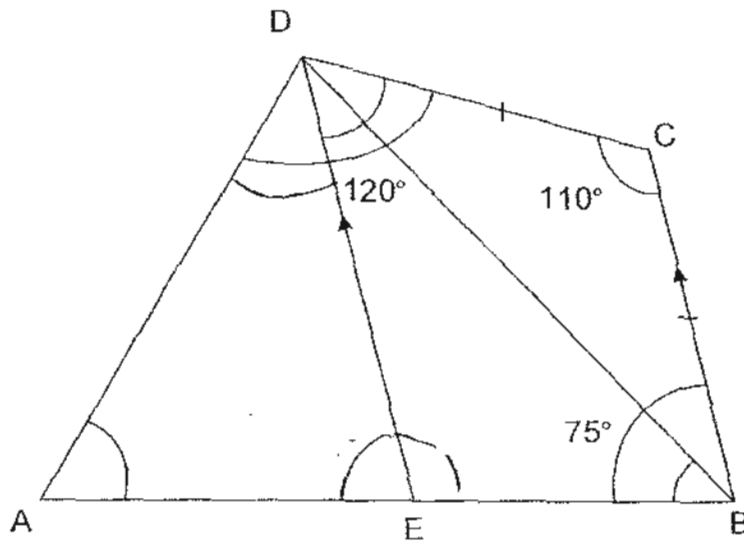
Diagram B

Ans: \_\_\_\_\_ [4]

- 12 ABCD is a quadrilateral and BCDE is a trapezium in which  $BC \parallel ED$ .  
 $\angle ADC = 120^\circ$ ,  $\angle BCD = 110^\circ$ ,  $\angle ABC = 75^\circ$  and  $BC = CD$ .

Find

- (a)  $\angle DAE$ ,  
 (b)  $\angle CDE$  and  
 (c)  $\angle DBE$ .



(a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [1]

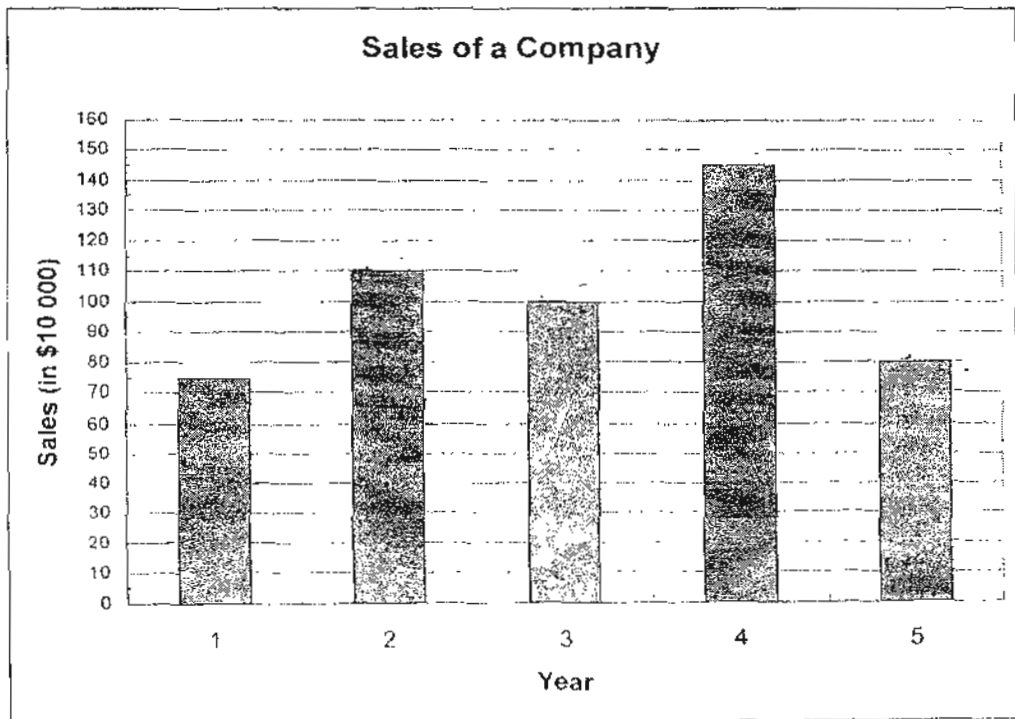
(c) \_\_\_\_\_ [2]

- 13 Quincy and Mandy saved \$5748.40 altogether. 0.4 of Quincy's savings was \$431.50 more than 0.2 of Mandy's savings. How much more money than Quincy did Mandy save?

Ans: \_\_\_\_\_ [4]

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- 14 The bar graph shows the sales of a company over a number of years.
- (a) In which year was the value of sales  $\frac{3}{4}$  that of Year 3?
- (b) Find the average sales of the company over the <sup>5</sup> years.
- (c) The ~~sales~~ value of sales in Year <sup>6</sup> increases the average sales of the company over the <sup>6</sup> years to \$1 070 000. What was the value of sales in Year <sup>6</sup>?



- Ans: (a) \_\_\_\_\_ [1]
- (b) \_\_\_\_\_ [1]
- (c) \_\_\_\_\_ [2]

- 15 The table below shows the day of the week that 1<sup>st</sup> January falls on from the year 1981 to 2000. Note that Day 1 of a week is a Monday and Day 7 is Sunday. There are 31 days in the month of January.

| Year                             | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|
| 1 <sup>st</sup> January falls on | 4    | 5    | 6    | 7    | 2    | 3    | 4    | 5    | 7    | 1    |
| Day ...                          |      |      |      |      |      |      |      |      |      |      |

| Year                             | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|
| 1 <sup>st</sup> January falls on | 2    | 3    | 5    | 6    | 7    | 1    | 3    | 4    | 5    | 6    |
| Day ...                          |      |      |      |      |      |      |      |      |      |      |

| Year                             | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|
| 1 <sup>st</sup> January falls on | A    | B    | C    | D    | E    | F    | G    | H    | I    | J    |
| Day ...                          |      |      |      |      |      |      |      |      |      |      |

- (a) What number does the letter C represent?
- (b) What number does the letter F represent?
- (c) Which day of the week will 1<sup>st</sup> February 2012 fall on?

Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [1]

(c) \_\_\_\_\_ [2]

- 16 Mrs Reuten bought some pizzas for a group of children. The girls received thrice as many pizzas as the boys. There were an equal number of girls and boys. Each boy ate  $\frac{2}{9}$  of a pizza and the boys finished all the pizzas given to them. Each girl ate  $\frac{1}{6}$  of a pizza and the girls had  $4\frac{1}{2}$  pizzas left. How many pizzas did Mrs Reuten buy?

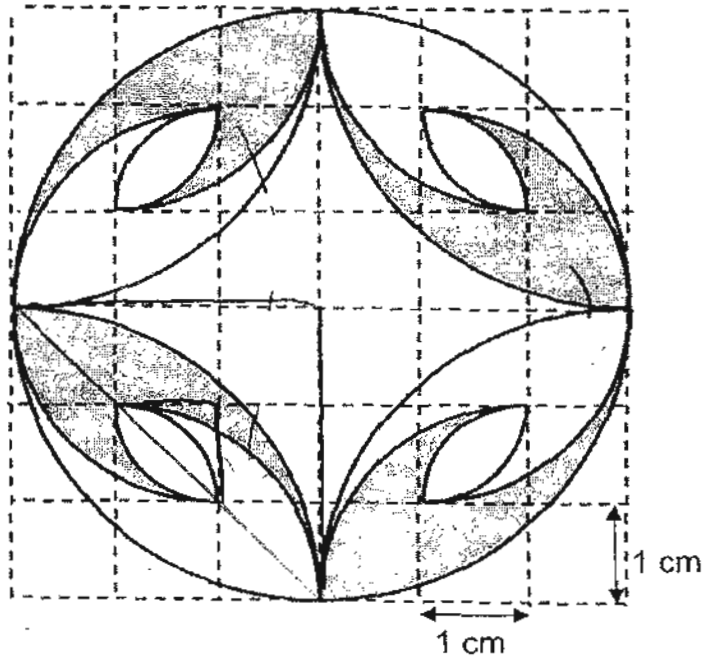
Ans: \_\_\_\_\_ [5]

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- 17 There were some blue marbles and white marbles in a bag. If 70 blue marbles were to be removed from the bag, the ratio of the number of blue marbles to the number of white marbles would be 3 : 4. If 112 white marbles were to be removed from the bag instead, the ratio of the number of blue marbles to the number of white marbles would be 8 : 7. ~~When~~ <sup>be</sup> ~~another~~ <sup>more</sup> 48 blue marbles were to be added into the bag, what percentage of all the marbles would be blue marbles?

Ans: \_\_\_\_\_ [5]

- 18 The figure below is created using the curved lines (arcs) of quadrants with radius 1 cm, 2 cm and 3 cm. Find the area of the shaded parts. (Take  $\pi$  as 3.14)



Ans: \_\_\_\_\_ [5]

END OF PAPER

Setters: Ms Mok P.T., Ms Ho C.F., Mr Teo W.T.



Nanyang Primary Prelim Exam 2010 Mathematics Suggested ANS

Paper 1 - Booklet A

- |      |      |      |       |       |
|------|------|------|-------|-------|
| 1. 3 | 4. 2 | 7. 3 | 10. 2 | 13. 3 |
| 2. 2 | 5. 1 | 8. 4 | 11. 2 | 14. 1 |
| 3. 3 | 6. 2 | 9. 1 | 12. 1 | 15. 4 |

Paper 1 - Booklet B

16. 844

17.  $3\frac{1}{5}$

18.  $91\frac{2}{3}$

19. 70



21. 10:6:3

22. 5

23. 164.5

24.  $19\frac{3}{4}$

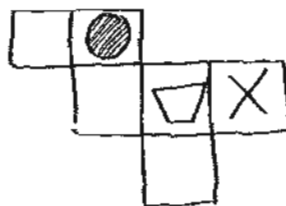
25. C, E, S

26.  $1\frac{4}{5}$

27.  $\frac{168-x}{2} + x$

28. Fantastic: 10 children  
Chiptos: 7 children

29.



30. 8

Paper 2

1.  $7/100 \times 70 = 4.9\%$   
 $70 + 4.9 = 74.9\%$   
 $74.9\% \rightarrow \$674.10$   
 $1\% \rightarrow \$9$   
 $100\% \rightarrow \$900$

2.  $600/60 = 10$   
 $10 + 1 = 11$

3.  $\frac{2}{3}$

4. 10368

5.  $9/2 = 4.5$   
 $4.5 + 4.5 + 2 + 2 = 13$

6. 13

7. \$274.80

8. (a)  $74^\circ$  (b)  $29^\circ$

9. 125

10. 30

11. 15.71

12. (a)  $55^\circ$  (b)  $70^\circ$  (c)  $40^\circ$

13.  $Q + M \rightarrow \$5748.40$   
 $0.4Q - 0.2M \rightarrow \$431.50$   
 $0.2Q - 0.1M \rightarrow \$215.75$   
 $Q - 0.5M \rightarrow \$1078.75$   
 $1.5M \rightarrow \$5748.40 - \$1078.75$   
 $= \$4669.65$

$M \rightarrow \$3113.10$   
 $\$5748.40 - \$3113.10$   
 $= \$2635.30$   
 $\$3113.10 - \$2635.30$   
 $= \$477.80$

14. (a) Year 1  
(b) \$1020000  
(c) \$1320000

15. (a) 3 (b) 7 (c) Wednesday

16. 8

17. 49.6%

18. 9.12

