CATHOLIC HIGH SCHOOL

PRELIMINARY EXAMINATION 1 2013

MATHEMATICS

PRIMARY 6

PAPER 1

(BOOKLET A)

Name:_____ ( )

Class: P 6_____

Date: 20 May 2013

15 questions

20 marks

Total Time for Booklets A and B: 50 min

Booklet A : **Page 1 to 6**

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Shade your answers in the Optical Answer Sheet (OAS) provided.

You are **not** allowed to use a calculator.

Answer all questions.

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. All diagrams are not drawn to scale. (20 marks)

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1. Which of the following is the best estimate for 337 × 74?

   (1) 330 × 70

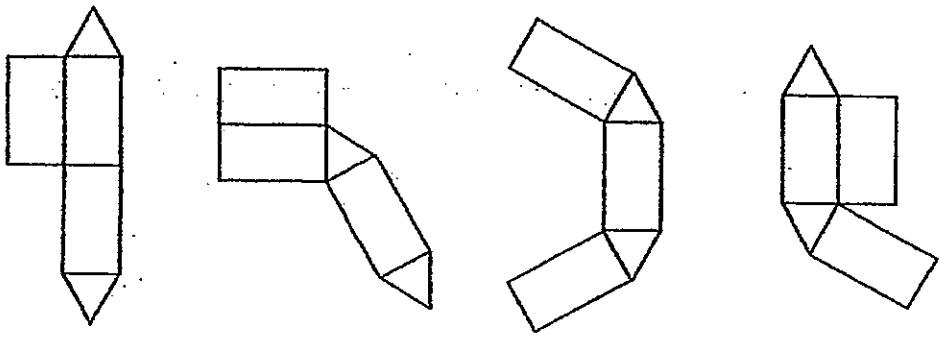
   (2) 330 × 80

   (3) 340 × 70

   (4) 340 × 80

---

2. Which of the following figures is a net of a prism?



A B C D

   (1) A

   (2) B

   (3) C

   (4) D

(Go on to the next page)

3. Which of the following is nearest to 1?

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

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

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

(4) $1\frac{3}{4}$

---

4. Round off 75 485 to the nearest hundred.

(1) 75 000

(2) 75 490

(3) 75 500

(4) 80 000

---

5. The amount of time Jeremy takes to sing the National Anthem of Singapore at the flag-raising ceremony every morning is approximately _____.

(1) 1.5 s

(2) 1.5 min

(3) 15 s

(4) 15 min

---

6. Find the sum of 3 hundreds, 8 tenths and 7 thousandths.

(1) 380.007

(2) 300.780

(3) 300.807

(4) 300.087

(Go on to the next page)

7. Express 2.5% as a fraction.

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

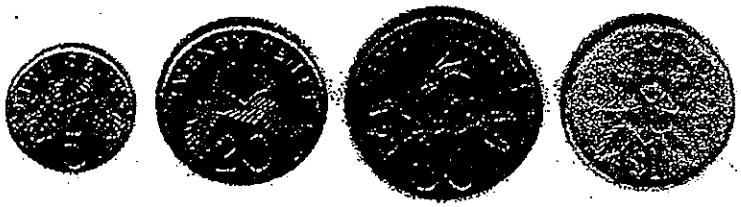
(2) $\frac{1}{40}$

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

(4) $2\frac{1}{2}$

---

8. Ethan had the following coins in his wallet.



5¢ 20¢ 50¢ $1

He used some coins to pay for sweets at a candy shop. He used two coins without receiving any change.
Which of the following amount could not be the payment amount?

(1) 25¢

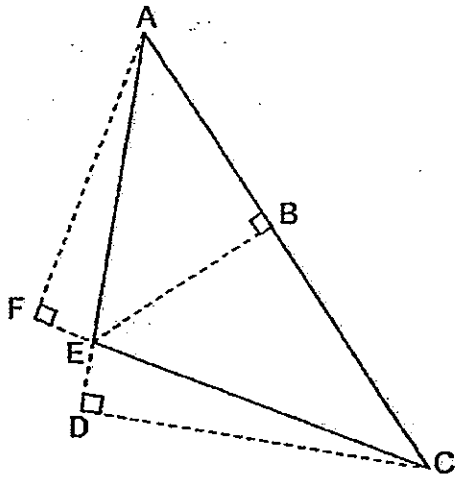
(2) 70¢

(3) $1.05

(4) $1.25

(Go on to the next page)

9. ACE is a triangle. Which one of the following gives the area of ACE?



(1) $\frac{1}{2} \times AD \times DC$

(2) $\frac{1}{2} \times EC \times AF$

(3) $\frac{1}{2} \times AC \times AF$

(4) $\frac{1}{2} \times EC \times EB$

---

10. The ratio of the number of pens Benjamin has to the number of pens Jeremy has is 1 : 4.
What percentage of the total number of pens does Jeremy have?

(1) 20%

(2) 25%

(3) 80%

(4) 125%

(Go on to the next page)

11. Gabriel had a 3 m string. He used $2\frac{3}{4}$ m to tie a carton box and cut the remaining string equally into 5 shorter pieces.
What is the length of each of the shorter piece of string?

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

(2) $\frac{1}{20}$ m

(3) $1\frac{1}{4}$ m

(4) 20 m

---

12. Jane and Sally were queuing in a line. Jane was in the middle of the line and Sally was the 8th in the line. There were 41 pupils altogether.
How many pupils were there between Jane and Sally?

(1) 11

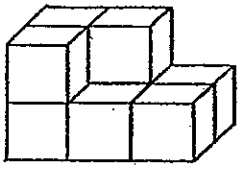
(2) 12

(3) 13

(4) 14

---

13. The solid below is made up of identical unit cubes.



What is the least number of unit cubes that could be added to the solid to form the next bigger cube?

(1) 3

(2) 9

(3) 18

(4) 27

(Go on to the next page)

14. The table shows the parking charges at a car park.

Vehicle parking charges	
7.00 a.m to 5.30 p.m.	$1.20 per hour or part thereof
After 5.30 p.m	$3.00 per entry

How much would Mrs Wong have to pay if she parked her car from 4.15 p.m. to 7 p.m. on the same day?

(1) $4.50

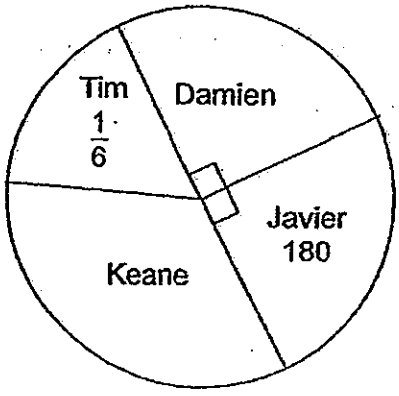
(2) $5.40

(3) $9.00

(4) $9.90

---

15. The pie chart represents the number of game cards Tim, Damien, Javier and Keane each had in their collection.



Javier had 180 game cards while Tim had $\frac{1}{6}$ of the total number of game cards. How many game cards did Keane have?

(1) 240

(2) 300

(3) 330

(4) 600

END OF BOOKLET A

(Go on to the next page)

CATHOLIC HIGH SCHOOL

PRELIMINARY EXAMINATION 1 2013

MATHEMATICS

PRIMARY 6

PAPER 1

(BOOKLET B)

Name:_____ ( )

Class: P 6_____

Date: 20 May 2013

15 questions

20 marks

Total Time for Booklets A and B: 50 min

Booklet B : **Page 7 to 13**

Booklet A	
Booklet B	
Total	

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

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.

Answer all questions.

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 in this space.

16. Write three hundred and fifty thousand and sixty-eight in figures.

Ans:_____

17. Find the value of $36 - 24 \div 12 + (9 + 8) \times 4$.

Ans:_____

18. Find the value of $38.52 \div 60$.

Ans:_____

(Go on to the next page)

19. Write down all the common factors of 18 and 24.

Do not write in this space.

Ans: _____

20. $\frac{3}{5}$ kg of beads was packed into bags of $\frac{3}{10}$ kg each.
How many bags of beads were there?

Ans: _____

21. Find the value of $7m - 47 - \frac{5m}{6}$ when $m = 8$.
Give your answer as a mixed number in the simplest form.

Ans: _____

(Go on to the next page)

22. The ratio of the number of Royce's marbles to Jaren's marbles is 3 : 7. How many marbles must Jaren give to Royce so that each of them has 45 marbles?

Do not write in this space.

Ans: _____

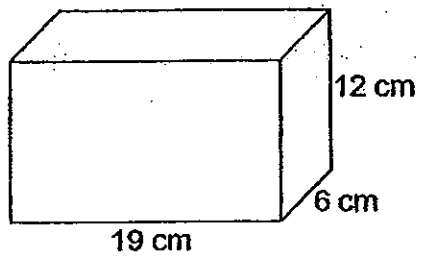
23. John and his friends visited a theme park. They left the theme park at 17 30. At what time did they enter the theme park if they had spent 7 h 20 min there?
Express your answer in 24-hour clock.

Ans: _____

(Go on to the next page)

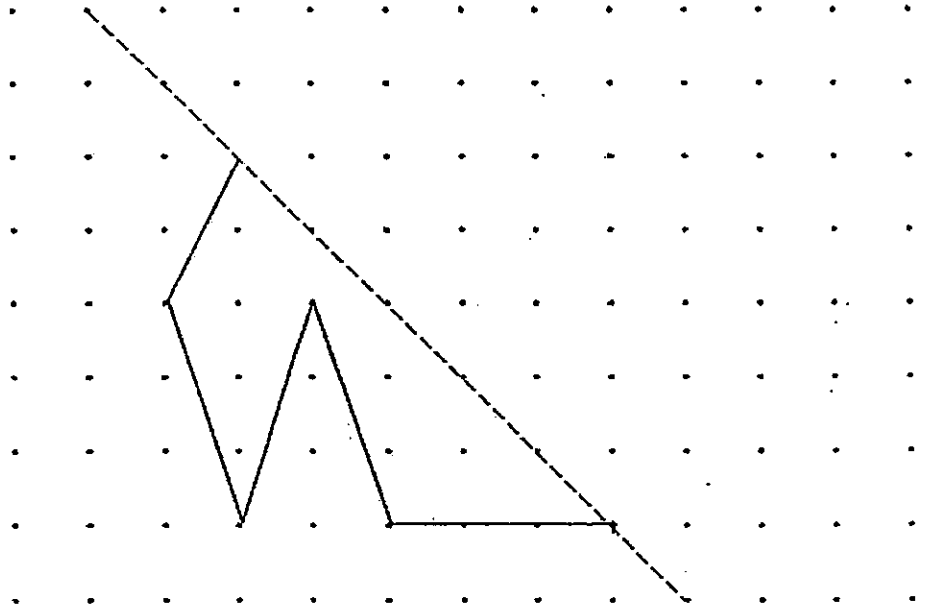
24. What is the maximum number of 3-cm cubes that can be cut from a wooden cuboid measuring 19 cm by 6 cm by 12 cm?

Do not write in this space.



Ans: _____

25. The diagram below shows half of a symmetric figure with the dotted line as its line of symmetry.
Draw the other half of the symmetric figure to complete the symmetric figure.



Total marks for questions 16 to 25

(Go on to the next page)

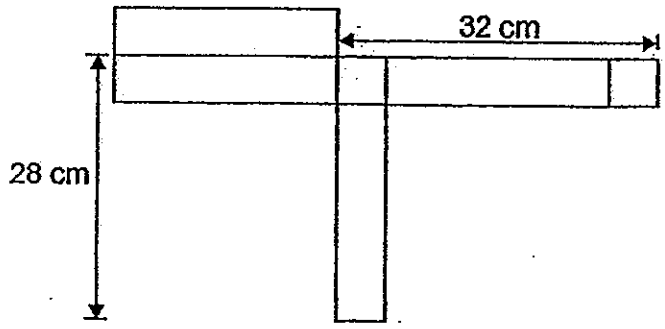
Questions **26** to **30** carry 2 marks each. Show your working and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space.

26. Express $\frac{6}{7}$ as a decimal and correct the answer to 2 decimal places.

Ans: _____

27. The figure below shows the net of a cuboid with a square base. Find the volume of the cuboid.



Ans: _____ cm^3

(Go on to the next page)

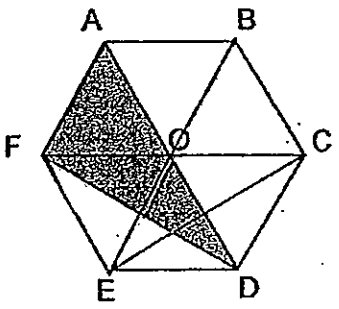
28. Mr Lee paid $288 for 2 pairs of shoes at a shoe shop during a sale. What was the usual price of the pair of shoes?

Do not write in this space.

SALE !
Buy a pair of shoes and get another pair of shoes at 40% discount.

Ans: $ _____

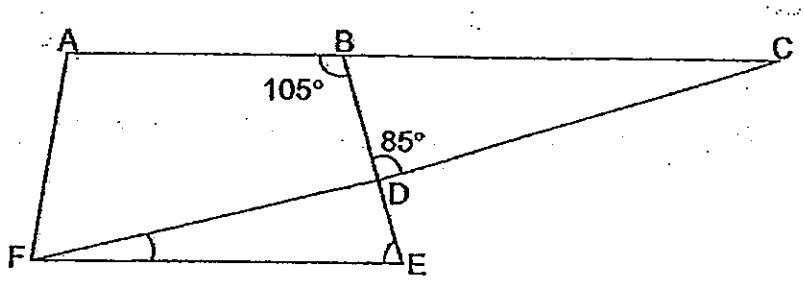
29. In the diagram below, ABCO and FODE are identical rhombuses and AOF and OCD are identical equilateral triangles. What fraction of the figure ABCDEF is shaded?



Ans: _____

(Go on to the next page)

30. In the figure below, ABEF is a trapezium and BCD is a triangle. ABC is a straight line. $\angle FDE = \angle CDE$. Find $\angle DFE$.



Ans: _____ °

Total marks for questions 26 to 30

END OF BOOKLET B
END OF PAPER 1

(Go on to the next page)

CATHOLIC HIGH SCHOOL

PRELIMINARY EXAMINATION 1 2013

MATHEMATICS

PRIMARY 6

PAPER 2

Name :_____ ( )

Class : P 6_____

Date: 20 May 2013

Total Time: 1 h 40 min

Parent's Signature:

Paper 1 Booklet A	20
Paper 1 Booklet B	20
Paper 2	60
Total Marks	100

There are 16 pages in this booklet.

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Show your working clearly as marks are awarded for correct working.

Write your answers in this booklet.

You are allowed to use a calculator.

Answer all questions.

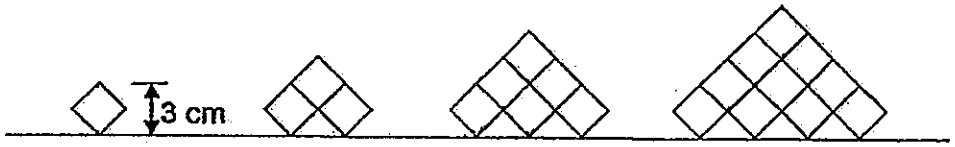
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. (10 marks)

Do not write in this space.

1. Mitchell had $58k$ number of sweets. He gave $34k$ number of sweets to his younger brother and packed the remaining sweets equally into 6 plastic bags. How many sweets were there in each plastic bag? Give your answer in terms of k in the simplest form.

Ans: _____

2. Fabian used identical square tiles to form a sequence of patterns. The first four patterns are shown below.



Pattern 1 Pattern 2 Pattern 3 Pattern 4

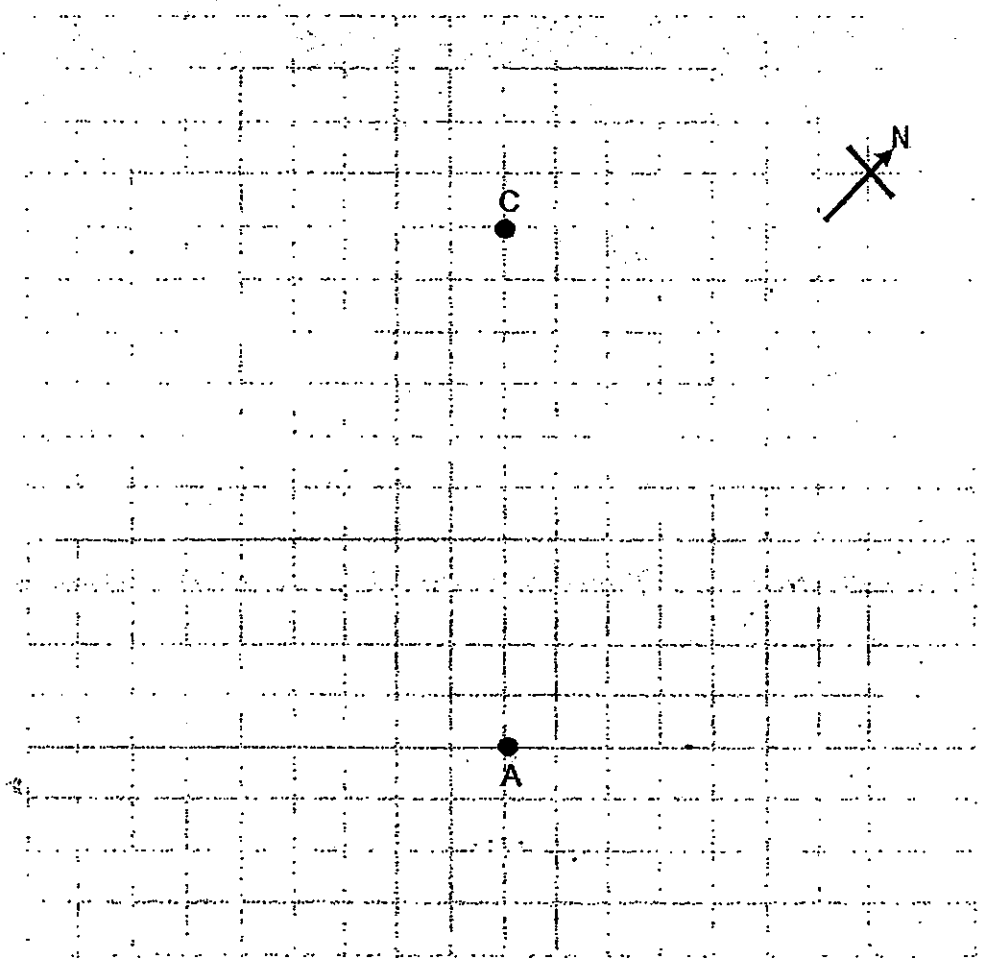
The vertical height of Pattern 1 is 3 cm.
What is the vertical height of Pattern 50?

Ans: _____ cm

(Go on to the next page)

3. A, B C and D are four points on a square grid below. ABCD is a square such that D is north of A and B is west of A.
Draw and label the square ABCD in the square grid below.

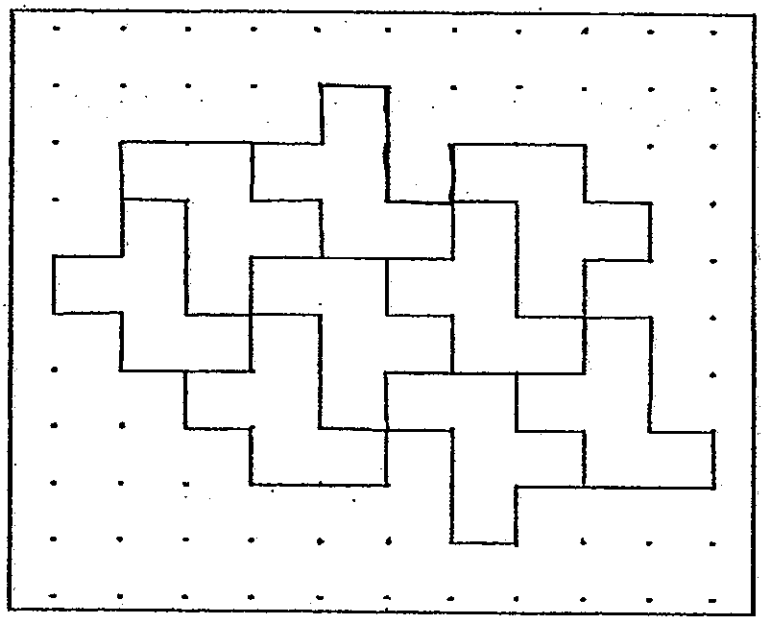
Do not write in this space.



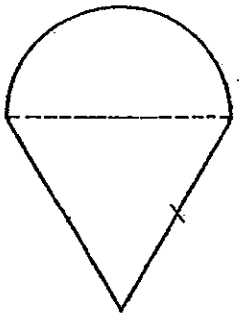
(Go on to the next page)

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

Do not write in this space.



5. The figure is made up of a semicircle and an equilateral triangle.
The diameter of the semicircle is 10 cm.
What is the perimeter of the figure?
Leave your answer in terms of π.



Ans: _____cm

(Go on to the next page)

For questions **6 to 18**, show your working 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. All diagrams are not drawn to scale. (50 marks)

Do not write in this space.

6. 4 children share some stamps. The average number of stamps Abel and Betty has is 158. The average number of stamps Don and John has is 140. What is the average number of stamps each child has?

Ans: _____ [3]

(Go on to the next page)

7. $\frac{1}{3}$ of Walter's savings is $\frac{3}{5}$ of Bryan's savings. Their difference in savings is \$288. How much is their total savings?

Do not write in this space.

Ans: _____ [3]

(Go on to the next page)

8. Michelle spends 35% of her salary every month. Her salary for June was 20% more than that of May. As a result, her expenditure in June increased by $175. How much was Michelle's expenditure in May?

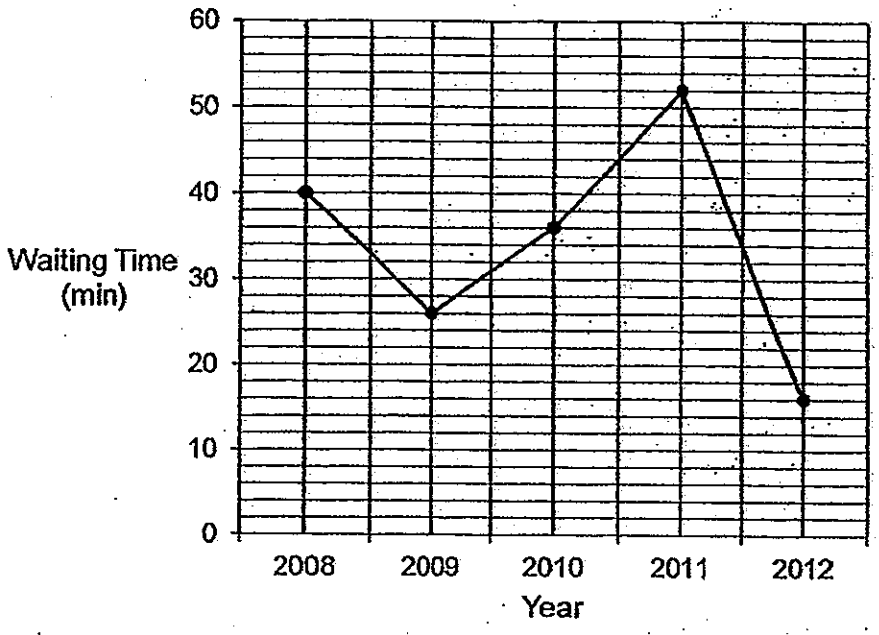
Do not write in this space.

Ans: _____ [3]

(Go on to the next page)

9. The line graph below shows the average waiting time from 2008 to 2012 for the patients at the emergency department of a hospital.

Do not write in this space.



(a) What was the difference between the longest waiting time and the shortest waiting time during the period from 2008 to 2012?

(b) Find the percentage increase in waiting time for a patient between 2009 and 2010.
(Give your answer correct to 1 decimal place)

Ans: (a) _____ [1]

(b) _____ [2]

(Go on to the next page)

10. Mr Chua and Mr Huang had $750 and $520 respectively. After each of them bought the same video camera, they were left with money in the ratio of 7 : 2. What was the cost of the video camera?

Do not write in this space.

Ans: _____ [3]

(Go on to the next page)

11. A square piece of paper, ABCD, is shaded on one side as shown in Figure 1. It is then folded at its corner B to form an isosceles triangle as shown in Figure 2. The perimeter and area of the remaining shaded region in Figure 2 is 72 cm and 180 cm^2 respectively. Find the area of the isosceles triangle.

Do not write in this space.

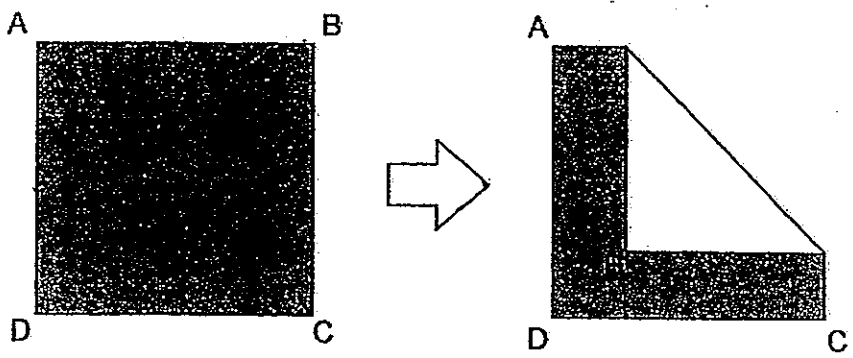


Figure 1 Figure 2

Ans:_____[4]

12. In a telematch, Ryan and Bala competed with each other to get from the starting line to the finishing line by playing the Scissors-Paper-Stone game. Each win of the game allows the winner to move forward by 3 steps. The loser moves backward by 1 step. Ryan played 50 times of the game with Bala and crossed the finishing line first. There were 94 steps between the starting line and the finishing line. How many times did Ryan win the game?

Do not write in this space.

Ans: _____ [4]

13. Max paid $7.70 for 6 erasers and 4 pens. With the same amount of money, he could buy 14 erasers. If he had decided to buy pens only, how many pens could he buy with $19.80?

Do not write in this space.

Ans: _____ [4]

(Go on to the next page)

14. Mrs Tay baked some chocolate and vanilla cakes. $\frac{3}{5}$ of the cakes were chocolate and the rest were vanilla. She gave away $\frac{1}{3}$ of the total number of cakes. An equal number of chocolate and vanilla cakes were given away and 14 vanilla cakes were left. How many chocolate cakes were left?

Do not write in this space.

Ans: _____ [4]

(Go on to the next page)

15. Charlotte,Judith and Maple shared some stickers. The ratio of the total number of stickers received by Judith and Maple to the number of stickers received by Charlotte was 3 : 4. When Charlotte gave 20 stickers to Judith and 15 stickers to Maple, and Judith gave 10 stickers to Maple, each of them had the same number of stickers. Find the total number of stickers Judith had at first.

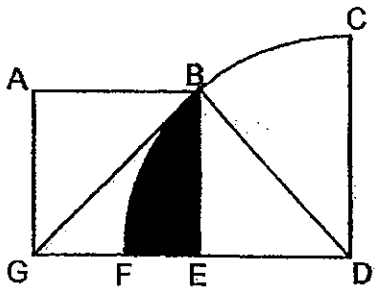
Do not write in this space.

Ans: _____ [4]

(Go on to the next page)

16. The figure is made up of a quarter circle CDF and a square ABEG. The corner B of the square lies on the circumference of the quarter circle. GFED is a straight line. GB = FD = 10 cm.
Find the area of the shaded part BEF.
(Take $\pi = 3.14$)

Do not write in this space.



Ans:_____ [5]

(Go on to the next page)

17. On a table top was a deck of coloured cards such that for every two blue cards, there were three red cards. The cards were arranged in the order as shown in Figure 1. James and his friends, Nicholas, Sally and Fabian, sat round the table as shown in Figure 2. Starting with James, each person took turns to draw a card from the top of the deck of cards in a clock-wise direction. They continued to draw until there were no cards left on the table.

Do not write in this space.

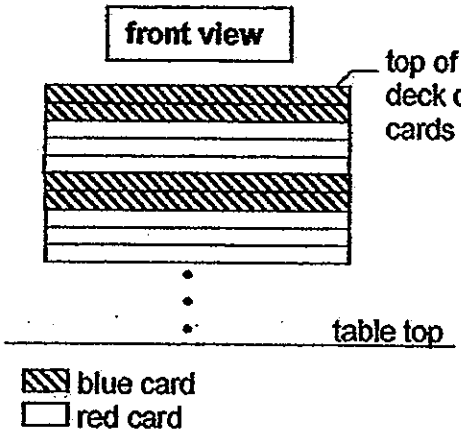


Figure 1

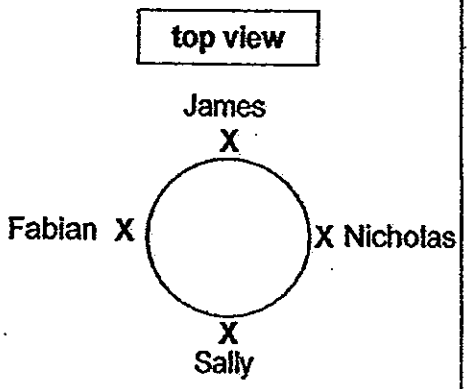


Figure 2

(a) How many cards did each person have in their hands when they had an identical set of cards each for the first time?

(b) When all cards were drawn from the table, they counted that there were 36 more red cards than blue cards. How many cards were there in the deck of cards at first?

Ans: (a)_____ [2]

(b)_____ [3]

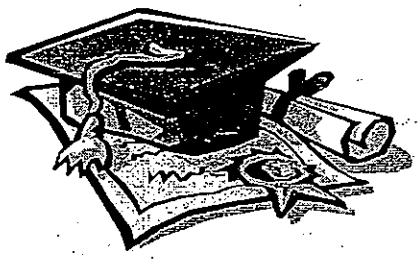
(Go on to the next page)

18. There were some boys and girls in the school hall at first. 40% of the boys and 10% of the girls left the school hall. As a result, $\frac{3}{4}$ of the pupils remained in the school hall. There were 12 more girls than boys who remained in the school hall. How many boys were there at first?

Do not write in this space.

Ans: _____ [5]

END OF PAPER.
PLEASE CHECK YOUR WORK CAREFULLY.



ANSWER SHEET

EXAM PAPER 2013
SCHOOL : CATHOLIC HIGH
SUBJECT : PRIMARY 6 MATHEMATICS

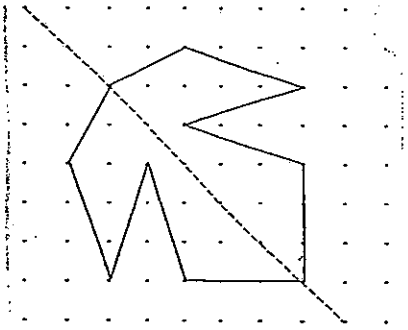
TERM : SA1

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

16)350068 **17)102** **18)(0.642)** **19)1,2,3,6** **20)2**

21)$2\frac{1}{3}$ **22)18** **23)1010** **24)48**

25)



26)0.86 **27)384cm3** **28)$180**

29)1/3 **30)100°**

Paper 2

1)58k – 34k = 24k

24k ÷ 6 = 24k/6

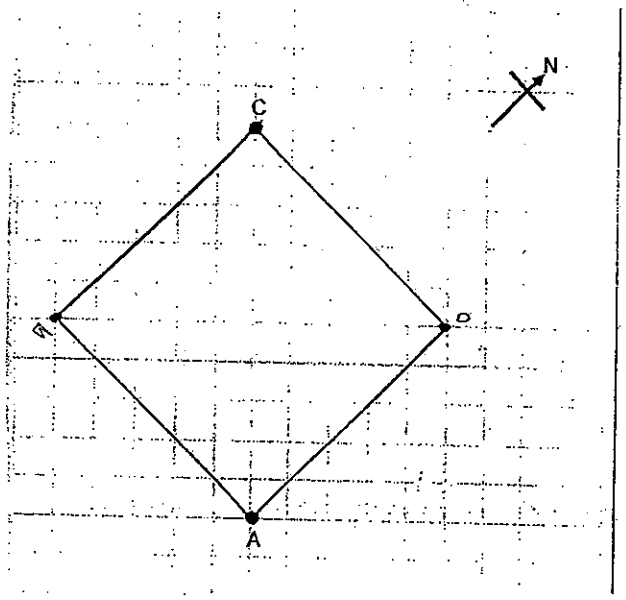
= 4k

2)50 ÷ 2 = 25

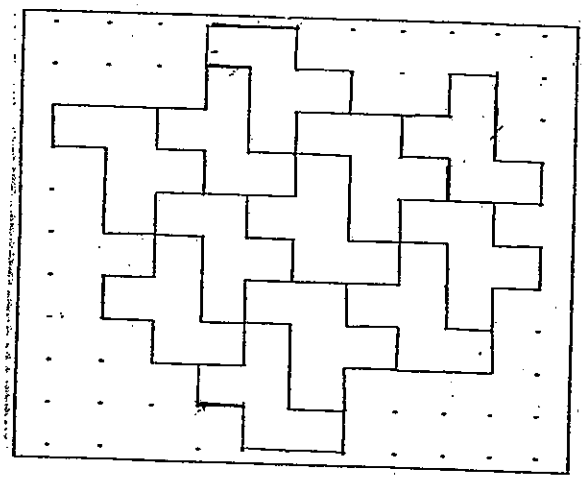
25 x 3 = 75

75 + 1.5 = 76.5cm

3)



4)



5)per of ⌒ → ½ x Π x 15 = 5Πcm
Triangle → 10 x 2 = 20cm
Total → 5Πcm + 20cm
= (5Π + 20)cm

6)A + B = 158 x 2 = 316
D + J = 140 x 2 = 280
Total = 316 + 280 = 596
Average = 596 ÷ 4 = 149

7)4u → $288
1u → $288 ÷ 4 = $72
14u → 72 x 14 = $1008

8)M → 100% J → 120%
Spent during M → 100% x 35% = 35%
Spent during J → 120% x 35% = 42%
Diff → 42% - 35% = 7%
7% → $175
1% → $25
35% → $25 x 35 = $875

9)a)Longest → 2011 = 52min
Shortest → 2012 = 16min
Diff → 52 – 16 = 36 min
b)Diff → 16 ÷ 0.26 x 1% ≈38.5%

10)5u → 750 – 520 = 230
1u → 230 ÷ 5 = 46
2u → 92
Video camera → 520 – 92 = $428

11)A. of ABCD → 18 x 18 = 324cm^2
A. of BEFG → 324 – 180 = 144cm^2
A. of △ → 144 ÷ 2 = 72cm^2

12)

win	lose	Total
25x3=75	25x1=25	75 – 25 = 50 X
30x3=90	20x1=20	90 – 20 = 70 X
40x3=120	10x1=10	120 – 10 = 110 X
35x3=105	15x1=15	105 – 15 = 90 X
37x3=111	13x1=13	111 – 13 = 98 X
36x3=108	14x1=14	108 – 14 = 94 √

13)6e + 4p = $7.70
14e = $7.70
14e – 6e = 8e
8e = 4p 2e = 1p
1e = $7.70÷14 = $0.55
1p = $0.55 x 2 = $1.10
$19.80÷$1.10 = 18 pens

14)7u→14
1u→14÷7 = 2
13u→2 x 13 = 26 cakes left

15)J+M : C : T
3 : 4 : 7
9 : 12: 21

J+M : J: M : C : T
14 : 7 : 7 : 7 : 2

Diff→120 – 70 = 50
50→20 + 15 = 35
10→35÷5 = 7
Aft + J→7 x 7 = 49
Bef J→49 +10 – 20 = 39

16)area of ABGE→(½ x 10 x 5) x 2 = 50cm^2
aea of ○→ ¼ x 3.14 x 10 x 10 = 78.5cm^2
area of big △ → ½ x 20 x 10 = 100cm^2

a + b→100cm^2 – 78.5cm^2 = 21.5cm^2
b→10.75cm^2
area of GBE→ ½ x 10 x 5 = 25cm^2
shaded area→25cm^2 – 10.75cm^2 = 14.25cm^2

17)a)5
b)180

<u>check</u>
2 + 3 = 5
3 – 2 = 1
36÷1 = 36
36 x 5 = 180

18)20% g→20% g
30% g/b→12
1% g/b→12/30
100% b →12/30 x 100 = 40