

Name: _____ ()

2012

Class: P 6 _____



CATHOLIC HIGH SCHOOL
PRIMARY SIX
PRELIMINARY EXAMINATION 1
PAPER 1
(BOOKLET A)

15 questions

20 marks

Total Time for Booklets A and B: 50 min

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 correct oval on the Optical Answer Sheet. All diagrams are not drawn to scale. (20 marks)

1. The number of spectators at a stadium was 247 867. Express this number to the nearest thousand.

(1) 240 000

(2) 247 000

(3) 248 000

(4) 250 000

()

2. Which of the following shows $7599 \div 300$?

(1) $7599 \div 3 \times 100$

(2) $7599 \div 100 \times 3$

(3) $7599 \times 100 \div 3$

(4) $7599 \div 3 \times 100$

()

3. The mass of a can of soft drink is approximately _____.

(1) 30 g

(2) 300 g

(3) 3 kg

(4) 30 kg

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4. Express 1 km 4 m in kilometers.

(1) 0.14 km

(2) 1.004 km

(3) 1.04 km

(4) 1.4 km

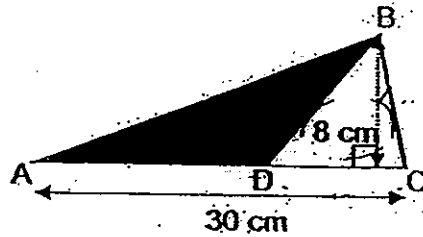
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5. Mary had as many blue marbles as green marbles. She gave away $\frac{1}{9}$ of her blue marbles and $\frac{1}{9}$ of her green marbles. What fraction of her marbles had she left?

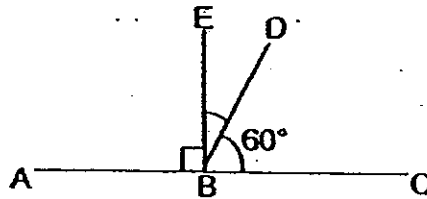
- (1) $\frac{1}{9}$
 (2) $\frac{2}{9}$
 (3) $\frac{7}{9}$
 (4) $\frac{8}{9}$ ()

6. ABC is a triangle. (AD is $\frac{3}{5}$ of AC.) Find the area of the shaded part.



- (1) 72 cm^2
 (2) 120 cm^2
 (3) 144 cm^2
 (4) 240 cm^2 ()

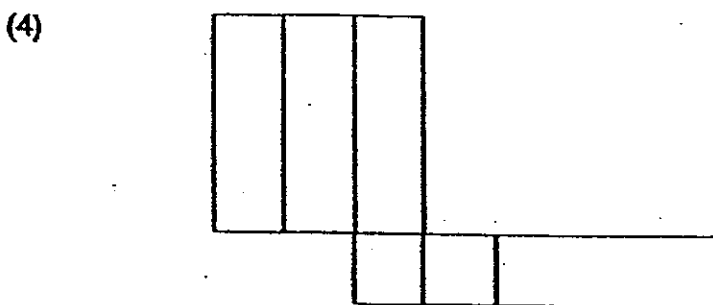
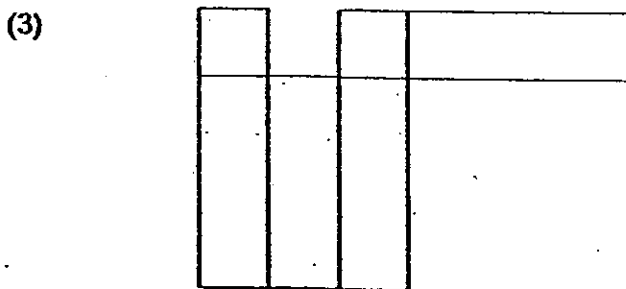
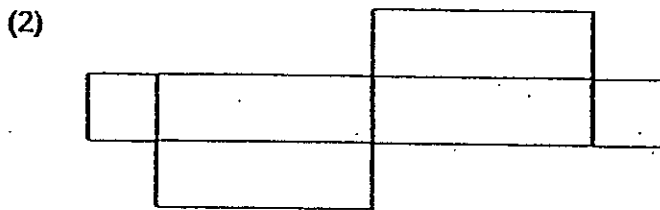
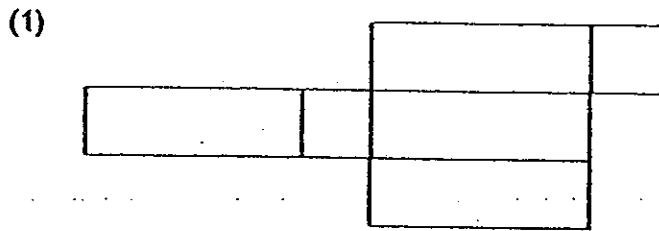
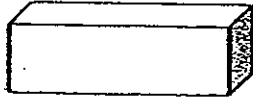
7. ABC is a straight line. Find $\angle EBD$.



- (1) 10°
 (2) 20°
 (3) 30°
 (4) 40° ()

(Go to the next page)

8. The diagram below shows the net of a cuboid. Which net shows the net of the cuboid shown?



()

(Go to the next page)

9. Jerry had 35 big stickers and 20 small stickers at first. He exchanged 10 small stickers for 5 big stickers. What percentage of his stickers are big stickers in the end?

- (1) 10%
- (2) 20%
- (3) 40%
- (4) 80%

()

-
10. The table shows the amount of money each child saves each week.

Wendy	\$1.20
Jane	\$2.50
George	\$1.50
Randy	\$1.80

What is the average amount of money each child save per week?

- (1) \$7
- (2) \$28
- (3) \$1.65
- (4) \$1.75

()

-
11. The length of a rectangle is twice its breadth. Find the area of the rectangle if the perimeter is 24 cm.

- (1) 8 cm^2
- (2) 16 cm^2
- (3) 32 cm^2
- (4) 128 cm^2

()

-
12. Find the value of $30 - (28 + 4) + 3 \times 2$.

- (1) 10
- (2) 17
- (3) 29
- (4) 52

()

(Go to the next page)

13. The table below shows the late charges for a book.

First day	\$0.20
Each subsequent day	\$0.50

David borrowed 2 books from the library on the same day. He returned both books together to the library a few days later. He paid \$3.40 for the late charges. How many days of late charges did David pay?

- (1) 8
- (2) 7
- (3) 3
- (4) 4

-
14. The ratio of the number of beads Jay has to the number of beads Samuel has is 3 : 4. The ratio of the number of beads Clive has to the number of beads Samuel has is 5 : 3. What is the ratio of the number of beads Jay has to the number of beads Samuel has to the total number of beads the 3 boys have?

- (1) 9 : 12 : 20
- (2) 9 : 20 : 12
- (3) 9 : 20 : 41
- (4) 9 : 12 : 41

()

-
15. Mindy has $\frac{8}{9}$ m of ribbon. She cuts it into several equal pieces. Each piece is $\frac{1}{12}$ m long. How much is the remaining ribbon?

- (1) $\frac{2}{3}$ m
- (2) $\frac{1}{18}$ m
- (3) $\frac{2}{27}$ m
- (4) $\frac{16}{27}$ m

()

END OF BOOKLET A

Name: _____ ()

2012

Class: P 6 _____



CATHOLIC HIGH SCHOOL
PRIMARY SIX
PRELIMINARY EXAMINATION 1
MATHEMATICS
PAPER 1
(BOOKLET B)

15 questions

20 marks

Total Time for Booklets A and B: 50 min

Booklet A	
Booklet B	
Total	

INSTRUCTIONS TO CANDIDATES

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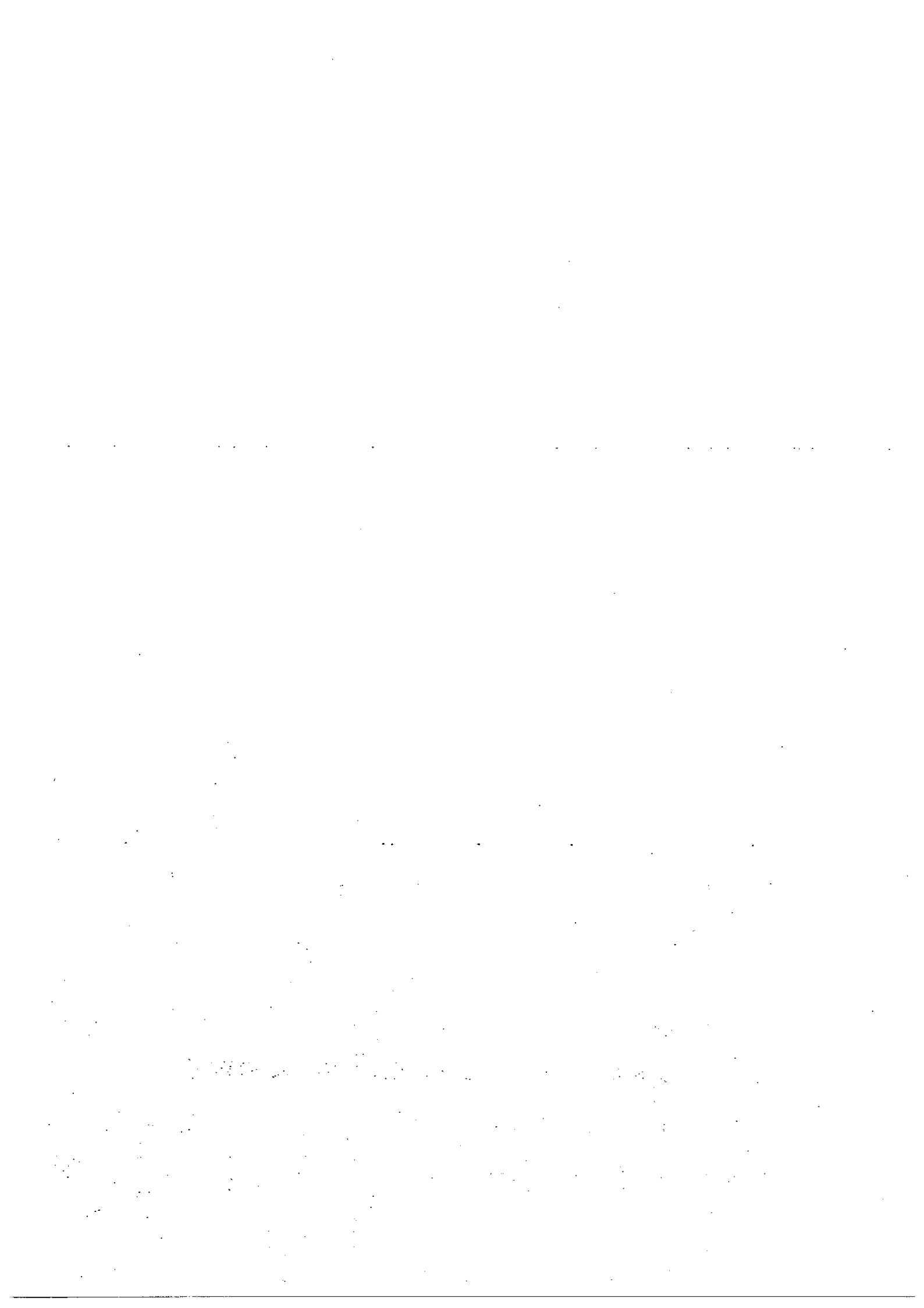
Follow all instructions carefully.

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 space provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write
in this space.

16. Write nine hundred and four thousand and one in figures.

Ans: _____

17. Form the greatest odd number using the digits 3, 7, 4, 8.

Ans: _____

18. Express 4 hundreds, 53 tenths and 9 thousandths as a decimal.

Ans: _____

(Go to the next page)

19. $36 : 16 = \boxed{7} : 24$

Find the missing number in the box.

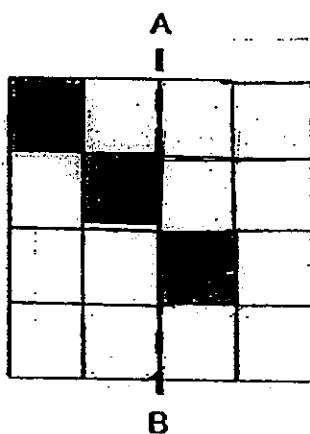
Ans: _____

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in this space.

20. 48 kg of flour are packed equally into several packets. Each packet contained $\frac{3}{8}$ kg of flour. How many packets of flour are there?

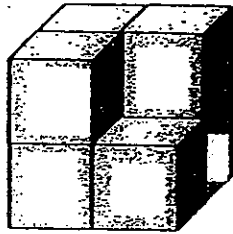
Ans: _____

21. The figure is made up of identical squares. AB is the line of symmetry of the figure shown below. Shade 3 more squares to make the figure symmetrical.



(Go to the next page)

22. The figure below shows a solid made up of identical unit cubes. The solid is dipped into a can of paint. How many of the unit cubes have only 3 of its faces painted?



Do not write
in this space.

Ans: _____

23. Mrs Lim drove from Singapore to Malacca at 8.35 a.m. She reached Malacca at 3 p.m. How long did her journey take? Express your answer in simplest form.

Ans: _____ h

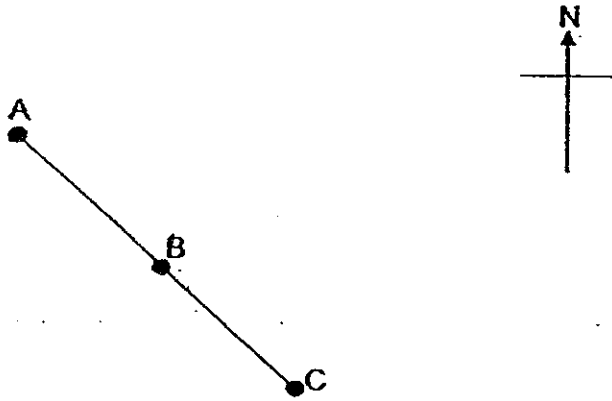
24. What percentage of 2 m is 10 cm?

Ans: _____ %

(Go to the next page)

25. ABC is a straight line. Draw a line perpendicular to ABC in the southwest of B.

Do not write
in this space.



Total marks for questions 16 to 25

(Go to the next page)

Questions 26 to 30 carry 2 marks each. Show your working 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)

Do not write
in this space.

26. Express $\frac{3}{7}$ as a decimal and correct the answer to 2 decimal places.

Ans: _____

27. Ken brought $\frac{4}{5}$ of his daily allowance to school. He used $\frac{2}{3}$ of it on food and used the rest of the money to purchase an exercise book. What fraction of his daily allowance was used to purchase the exercise book?

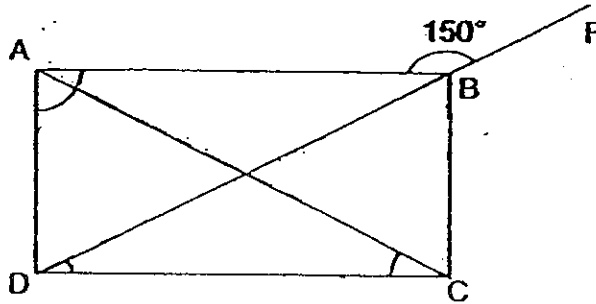
Ans: _____

28. A group of boys sat for a test. The average marks scored by the boys is 65 marks. Mary's marks is 86. With Mary's marks, the new average marks of the children is 68. How many boys are there in the group?

Ans: _____

(Go to the next page)

29. ABCD is a rectangle. DBF is a straight line. Find $\angle DAC$.



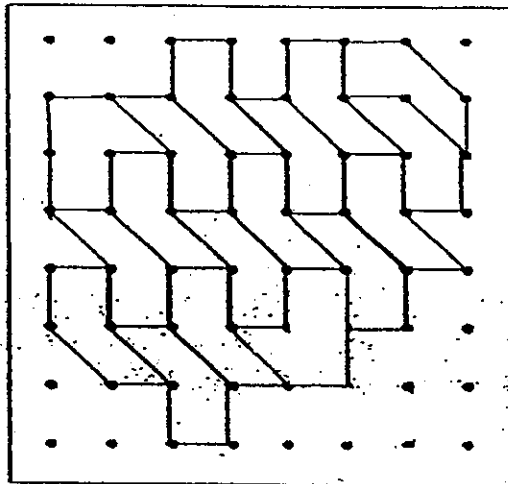
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Ans: _____

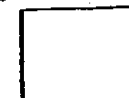


30. Shade the unit shape that is incorrectly tessellated,

Extend the tessellation by drawing another 2 unit shapes in the space given below.



Total marks for questions 26 to 30



END OF BOOKLET B
End of Paper 1

(Go to the next page)

Name : _____ ()

2012

Class : P 6 _____



CATHOLIC HIGH SCHOOL
PRELIMINARY EXAMINATION 1
PRIMARY SIX
MATHEMATICS
PAPER 2

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

INSTRUCTIONS TO CANDIDATES

Do not turn over this page 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 allowed to use a calculator.

Questions 1 to 5 carry 2 marks each. Show your working 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. All diagrams are not drawn to scale. (10 marks)

Do not write
in this space.

1. A pair of shoes is sold at \$100 after a discount of 20%. What is the original cost of the pair of shoes?

Ans: \$ _____

2. Mrs Lim bought some apples and mangoes at a fruit stall. 5 apples cost as much as 3 mangoes. She spent \$9.50 on 3 apples and 2 mangoes. What is the cost of a mango?

Ans: \$ _____

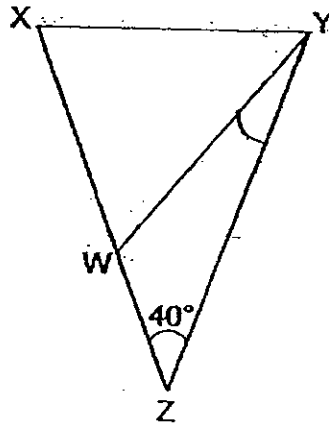
3. Wendy has 30 stickers more than Ben. When Wendy gives 48 stickers to Ben, Ben has thrice as many stickers as Wendy. How many stickers does Wendy have at first?

Ans: _____

(Go to the next page)

4. WXY and XYZ are different isosceles triangles. XY is equal to YW . XZ is equal to YZ . Find $\angle WYZ$.

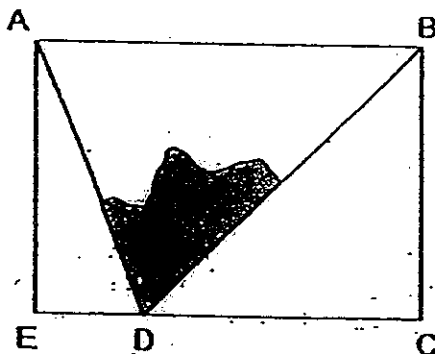
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Ans: _____ °



5. $ABCE$ is a rectangle and ABD is a triangle. $\frac{1}{3}$ of ABD is shaded. What fraction of $ABCE$ is unshaded?



Ans: _____



(Go to the next page)

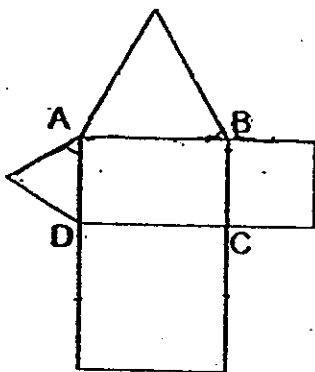
For questions 6 to 18, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in the brackets [] at the end of each question or part-question. All diagrams are not drawn to scale. (50 marks)

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6. The ratio of the number of girls to the number of boys at a camp was 4 : 5. When 46 girls went home, the ratio of the number of girls to the number of boys became 2 : 3. How many boys were there at the camp?

Ans: _____ [3]

7. Rectangle ABCD is formed using 2 different squares and 2 different equilateral triangles. The total perimeter of the squares and the triangles is 623 cm. Find the perimeter of rectangle ABCD.



Ans: _____ [3]

(Go to the next page)

8. 165 candies were packed into big and small boxes. There were 7 more small boxes than big boxes. Each big box contained 5 candies and each small box contained 3 candies. How many big boxes were used?

Do not write
in this space.

Ans: _____ [3]

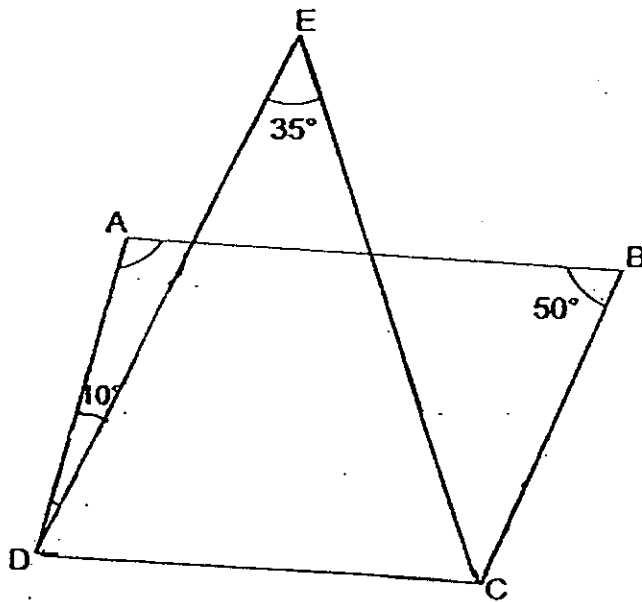
9. Harley spent \$180 on food. He used $\frac{2}{7}$ of the remaining money on some books. If he had $\frac{1}{3}$ of his money left, how much money did he have at first?

Ans: _____ [3]

(Go to the next page)

10. ABCD is a quadrilateral. DEC is a triangle. Find the sum of $\angle DAB$ and $\angle BCE$.

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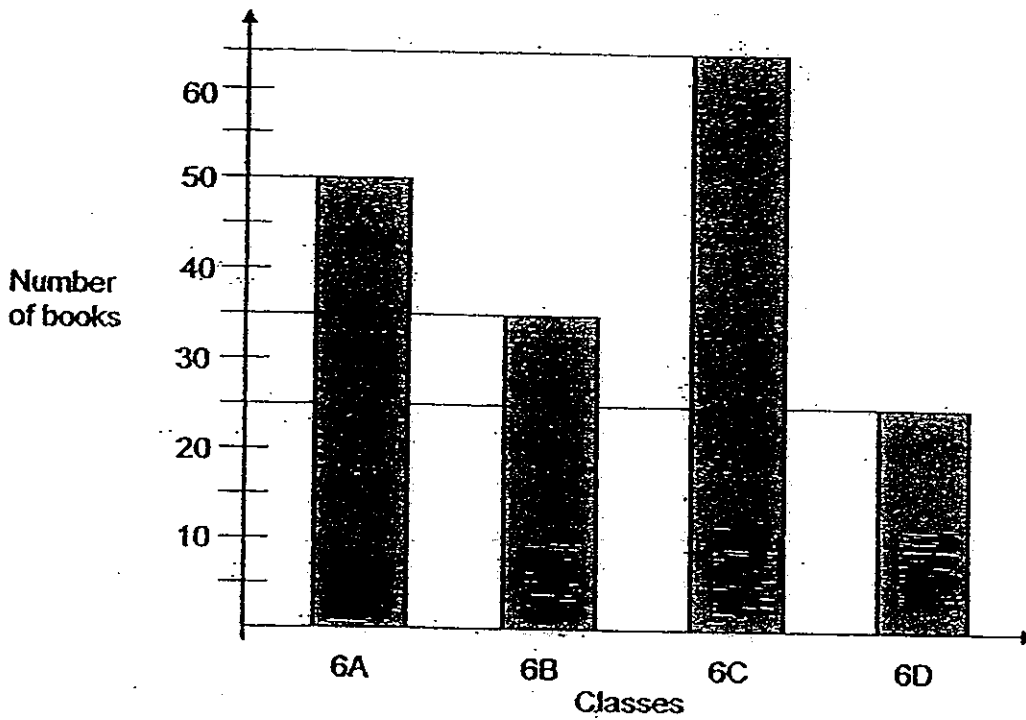
Ans: _____ [3]



(Go to the next page)

11. The graph shows the number of books borrowed by pupils from 4 classes.

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in this space.



Each girl borrowed 2 books while each boy borrowed 3 books. If there are 50 girls who borrowed books, how many boys borrowed books?

Ans: _____ [4]

(Go to the next page)

12. The ratio of the length of a rectangle to the breadth of a rectangle is 7:2. The perimeter of the rectangle is w cm.

a) Find the breadth of the rectangle.

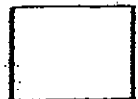
Express your answer in terms of w in its simplest form.

b) Find the breadth of the rectangle if the perimeter of the rectangle is 144 cm.

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in this space.

Ans:(a) _____ [3]

Ans:(b) _____ [1]

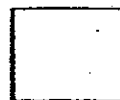


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13. A shop sells tarts at \$2 each or 3 for \$5. Mr Ong has \$169 and used it to buy the tarts. What is the maximum number of tarts Mr Ong can buy with the money?

Do not write
in this space.

Ans: _____ [4]



(Go to the next page)

14. A total of 325 boys and girls attended a performance in the school hall. $\frac{4}{5}$ of the boys and $\frac{3}{4}$ of the girls left the hall after the performance ended. There were 29 more boys than girls who remained in the hall. How many girls were there at first?

Do not write
in this space.

Ans: _____ [4]



(Go to the next page)

15. Roy bought some pens, files and erasers. The ratio of the number of pens to the number of files to the number of erasers he bought was 3:5:2. The cost of each pen and eraser is \$1.20 and \$0.80 respectively. If he spent \$182 on the pens and the erasers, how many files did he buy?

Do not write
in this space.

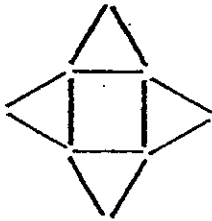
Ans: _____ [4]



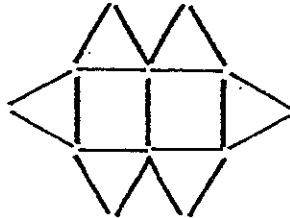
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16. The patterns are made up of sticks. The sticks are used to form squares and triangles. The first three patterns are shown below.

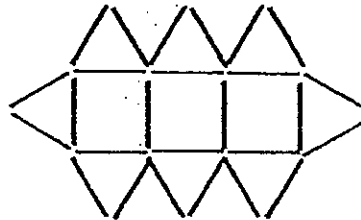
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Pattern 1



Pattern 2



Pattern 3

Pattern number	Number of triangles	Number of sticks
1	4	
2	6	
3	8	
4		

[2]

a) Complete the table. Find the number of triangles and the number of sticks used in pattern 4.

b) In which pattern number would 110 sticks be used?

Ans: (b) _____ [3]



(Go to the next page)

17. Adrian, Ben and Calvin share 436 marbles. After Adrian gave away $\frac{2}{5}$ of his marbles, the ratio of the number of marbles he has to Ben became 4 : 9. When Calvin lost $\frac{1}{3}$ of his marbles, the total number of marbles the children has was 352. How many marbles did Calvin have at first?

Do not write
in this space.

Ans: _____ [5]

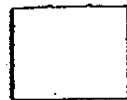


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18. Jodie has 20% more red beads than green beads. Her friend gave her 50 more orange beads than red beads. She mixed 20% of each of the coloured beads to make a total of 22 bracelets. She had used 298 red and orange beads for all the bracelets. How many beads were there in each bracelet?

Do not write
in this space.

Ans: _____ [5]



END OF PAPER.
PLEASE CHECK YOUR WORK CAREFULLY.

(Go to the next page)

Catholic High School
 Preliminary Examination One (2012)
 Answer Key for P6 Mathematics
 Paper 1

1)	3	6)	1	11)	3
2)	4	7)	3	12)	3
3)	2	8)	1	13)	4
4)	2	9)	4	14)	4
5)	4	10)	4	15)	2

16. 904001

17. 8743

18. 405.309

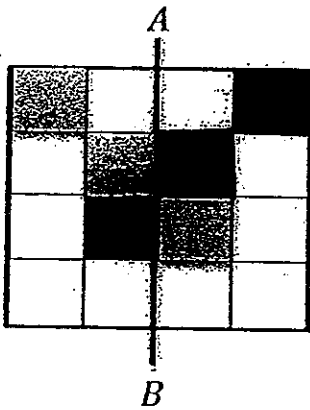
19. 54

20. 128

Working –

$48 \div \frac{3}{4} = 128$

21.



22. 4

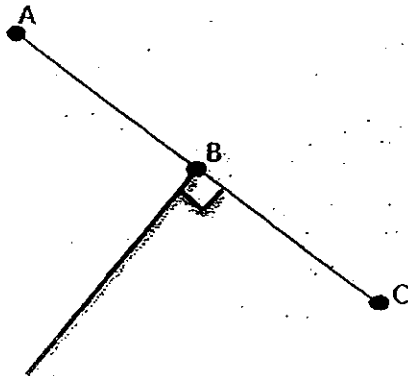
23. $6\frac{5}{12}$

24. 5

Working –

$\frac{10}{200} \times 100\% = 5\%$

25.



26. 0.43

27. $\frac{4}{15}$

Working -

$$\frac{1}{5} \times \frac{2}{3} = \frac{2}{15}$$

$$\frac{2}{5} - \frac{2}{15} = \frac{4}{15}$$

28. 6

Working -

$$68 - 65 = 3$$

$$86 - 65 = 21$$

$$21 \div 3 = 7$$

$$7 - 1 = 6$$

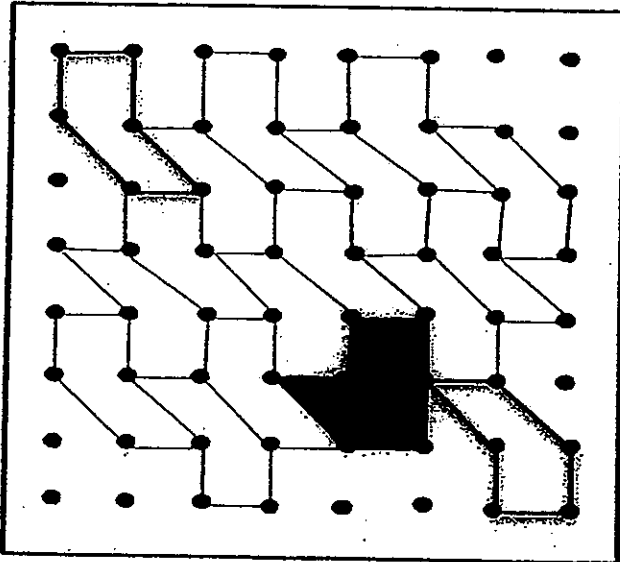
29. 60°

Working -

$$180^\circ - 150^\circ = 30^\circ$$

$$90^\circ - 30^\circ = 60^\circ$$

30.

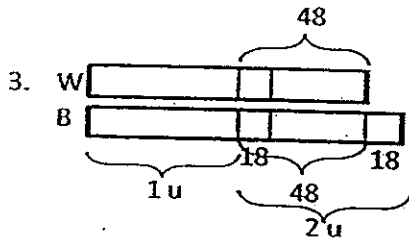


Catholic High School
 Preliminary Examination One (2012)
 Answer Key for P6 Mathematics
 Paper 2

1. \$100 → 80%
 20% → \$25
 100% → \$125

2. Cost of 5 apples = Cost of 3 mangoes
 Cost of 15 apples = Cost of 9 mangoes

3 apples + 2 mangoes → \$9.50
 15 apples + 10 mangoes → \$47.50
 Since cost of 15 apples = cost of 9 mangoes,
 9 mangoes + 10 mangoes → \$47.50
 19 mangoes → \$47.50
 1 mango → $\$47.50 \div 19$
 = \$2.50



$$2u \rightarrow 18 + 30 + 18$$

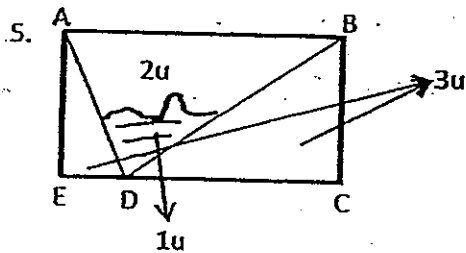
$$= 66$$

$$1u \rightarrow 66 \div 2$$

$$= 33$$

$$33 + 48 = \underline{81}$$

4. $(180^\circ - 40^\circ) \div 2 = 70^\circ$
 Angle WYZ → $70^\circ - 40^\circ$
 = 30°



$$\text{Shaded area} = \frac{1}{2} \times \frac{1}{2}$$

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

$$\text{Unshaded area} = 1 - \frac{1}{4}$$

$$= \frac{3}{4}$$

6. $G : B$ $G : B$
 $\left[\begin{array}{l} 4 : 5 \\ 2 : 3 \end{array} \right] \rightarrow \left[\begin{array}{l} 12 : 15 \\ 10 : 15 \end{array} \right]$

$$2u \rightarrow 46$$

$$1u \rightarrow 46 \div 2 \\ = 23$$

$$\text{No. of boys} \rightarrow 15u \\ \rightarrow 15 \times 23 \\ = \underline{345}$$

7. 7 pairs of (L + B)

$$623 \div 7 = 89$$

$$L + B = 89$$

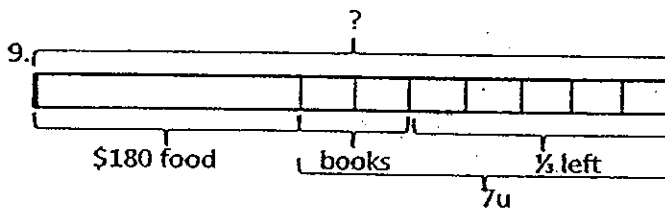
$$\text{Since perimeter of rectangle ABCD} = 2L + 2B \\ = 2 \times 89 \\ = \underline{178 \text{ cm}}$$

8. No. of candles in 7 small boxes = 7×3
= 21

$$165 - 21 = 144$$

No. of candles in 1 small box and 1 big box = 8

$$\text{No. of big boxes used} = 144 \div 8 \\ = \underline{18}$$



$$5u \rightarrow \frac{1}{2}$$

$$15u \rightarrow \frac{1}{2} \times 3 \\ = 1$$

$$15u - 7u = 8u$$

$$8u \rightarrow \$180$$

$$1u \rightarrow \$180 \div 8 \\ = \$22.50$$

$$15u \rightarrow \$22.50 \times 15 \\ = \underline{\$337.50}$$

10. $180^\circ - 35^\circ = 145^\circ$

$$360^\circ - 50^\circ - 10^\circ - 145^\circ = \underline{155^\circ}$$

11. No. of books borrowed by 50 girls = 2×50
= 100

$$\text{Total no. of books borrowed by 4 classes} = 50 + 35 + 65 + 25 \\ = 175$$

$$\text{No. of books borrowed by boys} = 175 - 100 \\ = 75$$

$$\text{No. of boys who borrowed books} = 75 \div 3 \\ = \underline{25}$$

12. (a) Perimeter $\rightarrow W$ cm
 Length $\rightarrow 7u \times 2$
 $= 14u$

Breadth $\rightarrow 2u \times 2$
 $= 4u$

$18u \rightarrow W$ cm

$1u \rightarrow \frac{1}{18}$ cm

Breadth $\rightarrow 2u$
 $= 2 \times \frac{1}{18}$
 $= \frac{1}{9}$ cm

(b) Since $W = 144$,

$B = \frac{1}{9}$ cm

$= (144 \div 9)$ cm

$= \underline{16}$ cm

13. $165 \div 5 = 33$

$\$169 - \$165 = \$4$

$\$4 \div 2 = 2$

Max. no. of tarts $= 33 \times 3 + 2$

$= \underline{101}$

14. Total no. of boys and girls $\rightarrow \frac{5}{5}B + \frac{4}{4}G$
 $= 325$

No. of boys and girls remained $\rightarrow (\frac{1}{5}B = \frac{1}{4}G + 29) \times 5$
 $\frac{5}{5}B = \frac{5}{4}G + 145$

$\frac{5}{4}G + 145 + \frac{4}{4}G = 325$

$\frac{9}{4}G = 325 - 145$
 $= 180$

$\frac{1}{4}G = 180 \div 9$

$= 20$

$\frac{4}{4}G = 20 \times 4$

$= \underline{80}$

15. Pens : Files : Erasers

3 : 5 : 2

1gp $\rightarrow (3 \times \$1.20) + (2 \times \$0.80)$
 $= \$5.20$

No. of gps $\rightarrow \$182 \div \5.20

$= 35$

No. of files $\rightarrow 35 \times 5$

$= \underline{175}$

16. (a) No. of triangles: 10

No. of sticks: 33

(b) $(110 - 12) \div 7 = 14$

$14 + 1 = \underline{15}$

17. After A : B

12 : 27

$\frac{3}{5}$ marbles $\rightarrow 12u$

$\frac{5}{5}$ marbles $\rightarrow (12u \div \frac{3}{5}) \times \frac{5}{5}$

$$\begin{aligned}
&= 20u \\
\text{Before } A &: B \\
&20 : 27 \\
\text{Suppose Calvin has } 3p \text{ marbles.} \\
47u + 3p &= 436 \\
39u + 2p &= 352 \\
(47u + 3p) - (39u + 2p) &= 436 - 352 \\
8u + 1p &= 84 \\
16u + 2p &= 168 \\
(39u + 2p) - (16u + 2p) &= 352 - 168 \\
23u &= 184 \\
1u &= 184 \div 23 \\
1u &= 8 \\
47u &= 8 \times 47 \\
&= 376 \\
\text{No. of marbles Calvin have} &= 436 - 376 \\
&= \underline{60}
\end{aligned}$$

$$\begin{aligned}
18. \text{ Red Beads: } 120\% &\rightarrow (20 \div 100) \times 120\% = 24\% \\
\text{Green Beads: } 100\% &\rightarrow (20 \div 100) \times 100\% = 20\% \\
\text{Orange Beads: } 120\% + 50 &\rightarrow (20 \div 100) \times 120\% + (20 \div 100 \times 50) \\
&= 24\% + 10 \\
\text{RB + OB} &\rightarrow 48\% + 10 \\
&= 298 \\
48\% \text{ of beads} &\rightarrow 298 - 10 \\
&= 288 \\
1\% \text{ of beads} &\rightarrow 288 \div 48 \\
&= 6 \\
68\% \text{ of beads} &\rightarrow 6 \times 68 \\
&= 408 \\
\text{Total no. of beads} &\rightarrow 68\% + 10 \\
&= 408 + 10 \\
&= 418 \\
\text{No. of beads in each bracelet} &\rightarrow 418 \div 22 \\
&= \underline{19}
\end{aligned}$$