HOKIEN HUAY KUAN 5-SCHOOL PRIMARY 6 COMBINED PRELIMINARY EXAMINATION (I)

TAO NAN ● AI TONG ● CHONGFU ● NAN CHIAU ● KONG HWA

Mathematics

2004

数学 MATHEMATICS
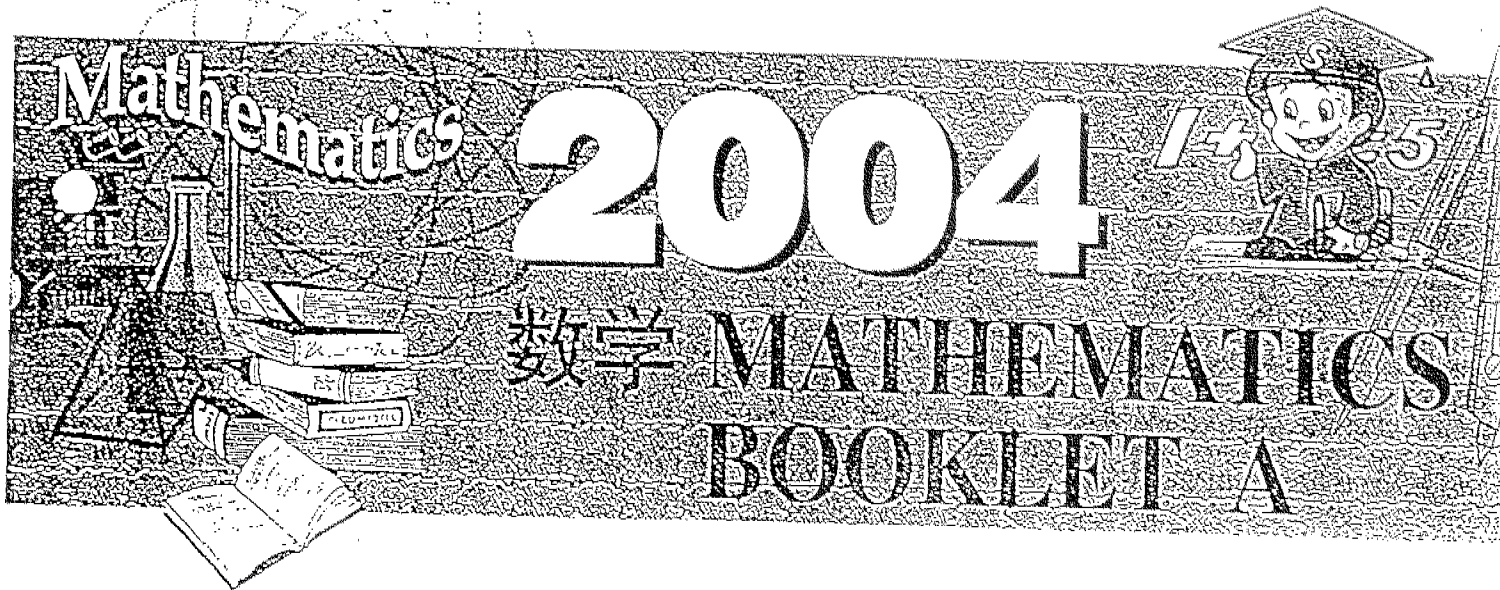
BOOKLET A

Name : _____ _____ ( )   Marks : [/25]

Class : P 6 ( )

Date : _____

12 multiple-choice questions

25 marks

This booklet consists of 4 printed pages.

Total time for Booklet A & B : 2 h 15min

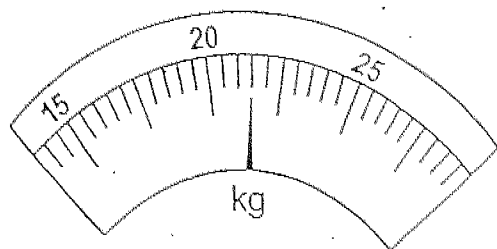DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

Section A (25 marks)
Questions 1 to 5 carry 1 mark each. Questions 6 to 15 carry 2 marks each. Choose the correct answers and shade your answers in the Optical Answer Sheet provided.
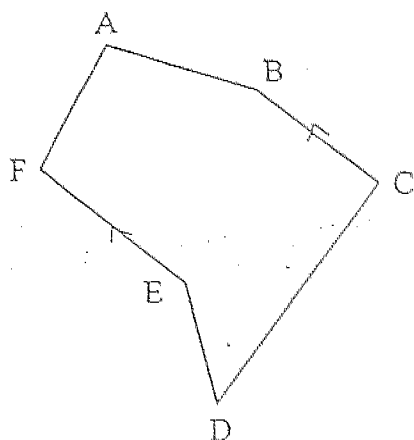
1. Find the value of $20 + 10 \times 4 - 2$.

    (1) 40
    (2) 58
    (3) 60
    (4) 118

2. What is the reading indicated on the weighing scale below?

    (1) 20.15 kg
    (2) 20.3 kg
    (3) 21.5 kg
    (4) 23 kg

3. There is one pair of parallel lines in the figure. They are _____.

    (1) AF and CD
    (2) BC and EF
    (3) BC and CD
    (4) AB and AF

4. 32,06 km is the same as _____ m.
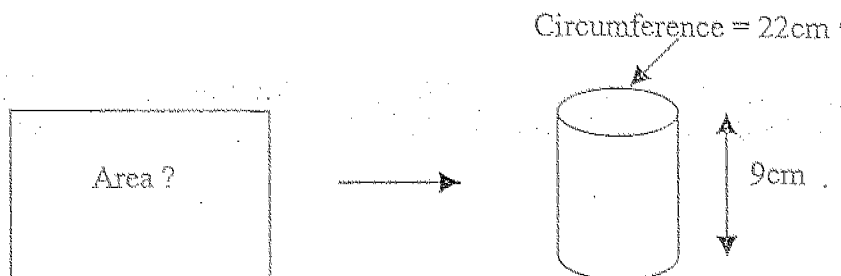   (1) 3 206
   (2) 3 260
   (3) 32 060
   (4) 32 600

5. At a sale, Rose was given a discount of $4 for a book which was sold at $20. How many percent was the discount?

   (1) 20
   (2) 25
   (3) 75
   (4) 80

6. Express $\frac{1}{5}$ hour as a fraction of 15 minutes.

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

   (2) $\frac{4}{5}$

   (3) $\frac{5}{4}$

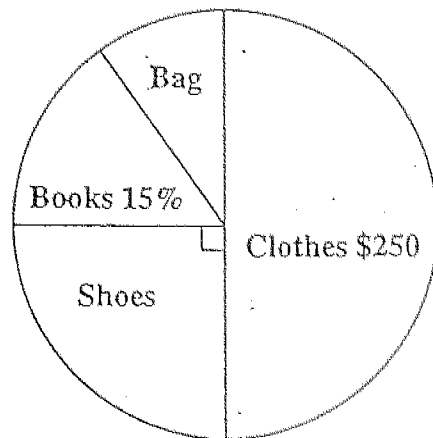   (4) $\frac{4}{3}$

7. A rectangular piece of paper was folded to become a hollow cylindrical tube as shown below.

Circumference = 22cm

Area ?

9cm

If the circumference of the tube is 22cm, find the area of the rectangular piece of paper.

   (1) 40 cm²
   (2) 62 cm²
   (3) 99 cm²

8. The pie chart below shows the amount of money Derrick spent on various things.

How much money did he spend on the bag?

(1) $37.50
(2) $50
(3) $75
(4) $125

9. Mrs Lee had $m left after buying two watermelons that cost $2.50 each. How much money did she have at first?

(1) $(m − 2.50)
(2) $(m − 5)
(3) $(m + 5)
(4) $(m + 2.50)

10. $\frac{2}{3}$ of Liling's money equals to $\frac{1}{5}$ of Benny's. Express Liling's money as a ratio of Benny's.

(1) 3 : 5
(2) 3 : 8
(3) 3 : 10
(4) 3 : 15

11. 250 g of tomatoes cost $0.55. Jenny paid $6.60 for a packet of tomatoes. What was the weight of the tomatoes she bought?

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

12. In the figure below, ABCD is a parallelogram and ECF is a straight line. Find angle EBF.
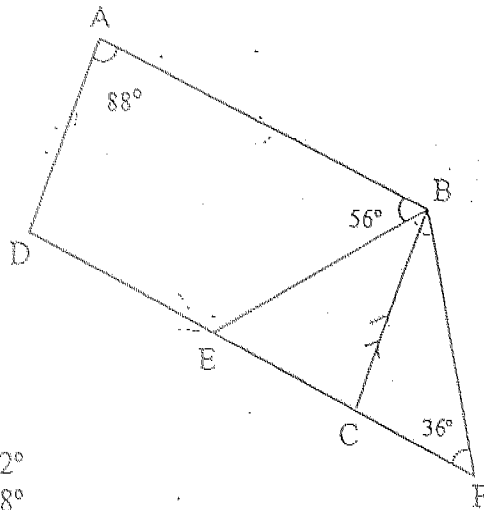
(1) 52°
(2) 88°
(3) 92°
(4) 124°

13. If the area of a square is increased by 300%, by what percentage is the side of the square increased?

(1) 100%
(2) 200%
(3) 300%
(4) 400%

14. Sharifah walked at 4 km/h and took $\frac{1}{4}$ hour to reach the school. If she walked 1 km/h slower, how long would she take to reach the school?

(1) 15 min
(2) 20 min
(3) 30 min
(4) 45 min

15. There were as many men as women at a party. $\frac{1}{3}$ of the men and $\frac{1}{6}$ of the women won prizes. What fraction of the people won prizes?

(1) $\frac{1}{18}$

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

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

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

END OF SECTION A

Questions 16 to 35 carry 1 mark each. Write your answer in the blank space provided. Give your answers in the units stated.

16. $40110 \text{ g} + 1.5 \text{ kg} =$ _____ kg

Answer: _____ kg

17.   Express $2 as a percentage of $50.

Answer: _____ %

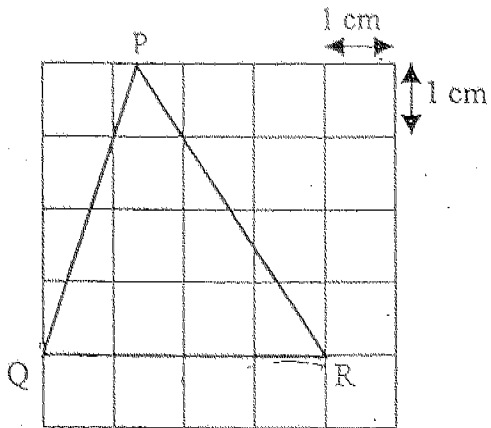18.   Find the difference between the values of the digit '3' in 37 200 and 73 200.

Answer: _____

19.   Express $3\frac{3}{7}$ as a decimal. Round off your answer to 2 decimal places.
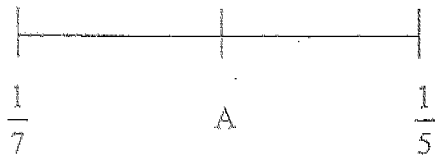
Answer: _____

20.   Simplify $8a + 6 - 4a - 4$.

Answer: _____

21. Find the area of triangle PQR

Answer: _____ cm^2

22.

$\frac{1}{7}$ A $\frac{1}{5}$

A is the mid point between $\frac{1}{5}$ and $\frac{1}{7}$. What is the value of A?

Answer: _____

23. A cartoon programme ended at 3.20 p.m. It lasted for 45 minutes. At what time did the cartoon start showing?
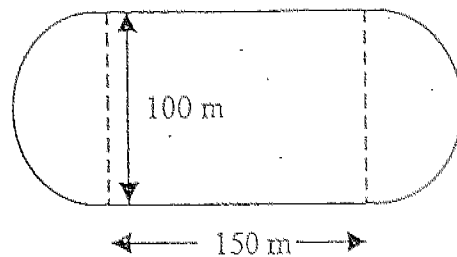
Answer: _____ pm

24. Yip Seng saved an average of 65 cents a day. How much would he save in 26 days?

Answer: $ _____

25. Ailing earns 5¢ for every apple sold. If she sells 125 apples in 2 hours, how much could she earn in 8 hours?

Answer: $_____

---

26. The diagram below shows a running track which is made up of a rectangle and 2 semi-circles. What is distance covered by Joshua if he jogs round it once? (Take π = 3.14)

100 m

←—— 150 m ——→

Answer: _____ m

---

27. Ali walks 420m from home to school at a speed of 35 m/min. How long does he take to reach the school?

Answer: _____ h

---

28. Find the value of $p^3 + 2p + 4$ when $p = 5$.

Answer: _____

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29. 22 out of 40 pupils pack their bags regularly. What is the percentage of the pupils who pack their bags regularly?
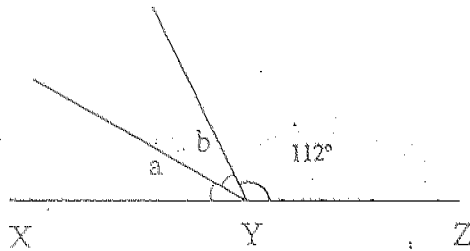
Answer: _____ %

30. Rose mixes 400ml of carrot juice with 1.4*l* of orange juice to prepare a drink. What is the ratio of the carrot juice to the orange juice used?

Answer: _____ : _____

31. Jim and Peter share $200 in the ratio of 3 : 2. How much money must Jim give Peter so that the ratio becomes 2 : 3?
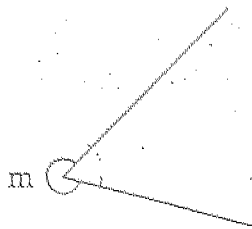
Answer: $ _____

32. In the figure below, XYZ is a straight line. If $\angle$ a = $\angle$ b, find $\angle$ a.
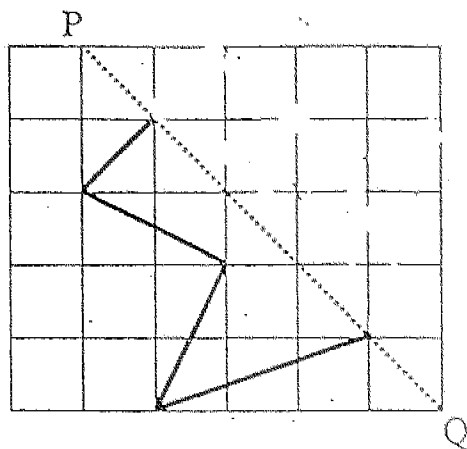

Answer: _____ °

33. Measure $\angle$ m and write down its size.
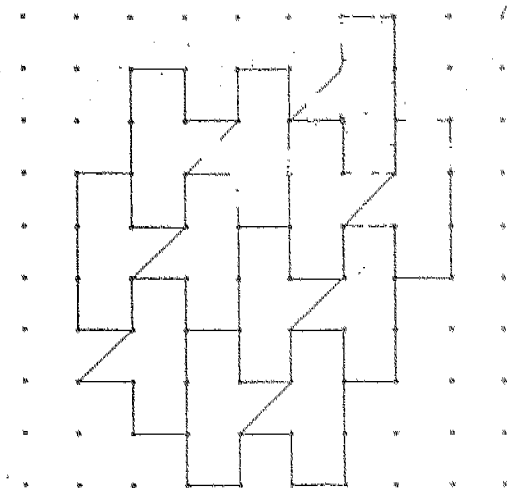

Answer: _____ °

34.   Complete the figure below so that the dotted line PQ is the line of symmetry.

35.   Study the tessellation below carefully.
   Shade the unit shape that does not fit into it.

Write your answers to questions 36 to 50 in the space provided. For each question, show your working in the space below it. The number of marks allocated is shown in the brackets [ ] at the end of each question or part-question.

36. Jenny collected a certain number of stickers. After buying another $2\frac{1}{2}$ times as many stickers as she had, she now has a total 35 stickers. How many stickers did she have at first?

Answer: _____ [2m]

37. During a promotion at a zoo, every 8th visitor will be given a free admission ticket. How many free admission tickets will be given to a group of 90 visitors?

38. Five identical cubes are joined together as shown in solid A. If the total surface area of the solid is 198cm², find the volume of 1 cube.
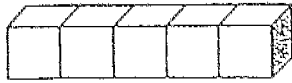
Solid A

Answer: _____ . _____ [2m]

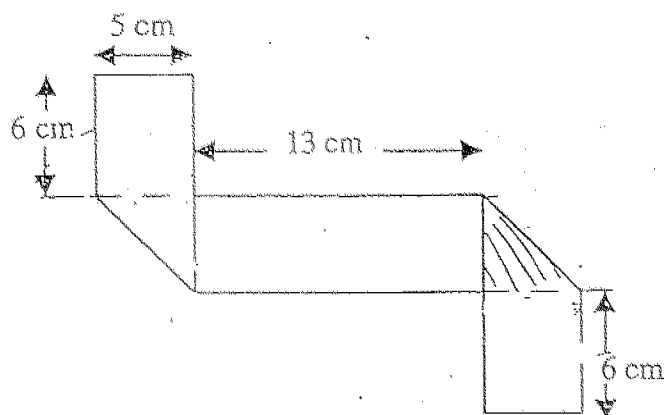39. The table below shows the parking rate at ABC shopping centre.

For the first hour or part thereof	$2.20
For subsequent ½ hour or part thereof	$0.90

Mrs. Lim paid $5.80 for parking at the shopping centre.
What is the longest time she could have parked her car at the shopping centre?
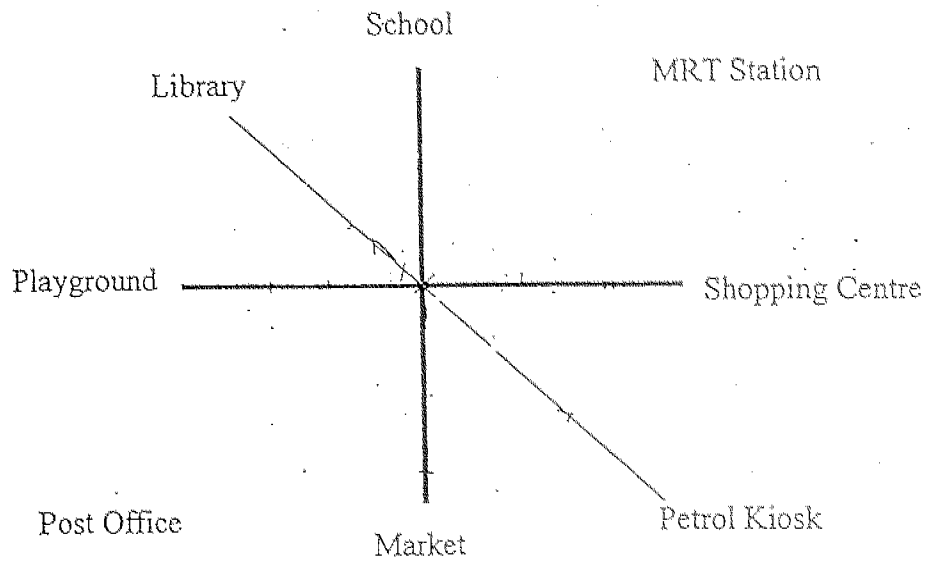
Answer: _____ [3m]

40. A rectangular piece of paper is folded to form the shape shown below.

Find the perimeter of the rectangular piece of paper before it was folded.

Answer: _____ _____ [3m]

41. The diagram below shows the different places in Happy Town. The four bold lines represent the 4 main roads in the town.

a) Adeline is facing the library. Where will she face if she turns 90° anti-clockwise?

Answer: (a)_____[1m]

b) Another girl Rachael is facing the market after making a 135° clockwise turn. Where was she facing before making the turn?

Answer: (b)_____[1m]

c) Samson is facing the library. He wants to go to the shopping centre. Through what angle should he turn anti-clockwise to face the shopping centre?

[1m]

42. A rectangular tank, 60cm by 50cm by 40cm, was filled with $\frac{9}{10}$ of water. The tap was turned off. A rock of volume 20000 cm³ was placed into the tank.
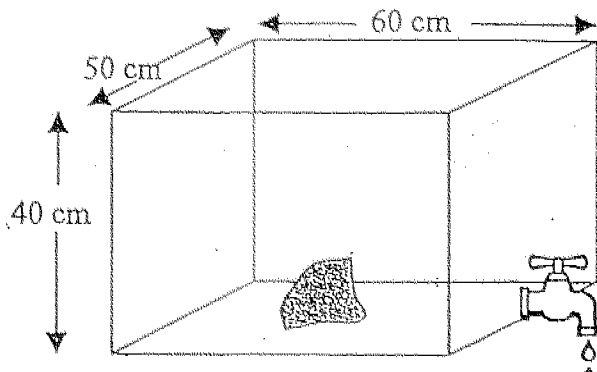
a) Find the volume of water that flowed out of the tank when the rock was placed into the tank.

_____

_____

Answer: (a)_____

b) The tap is turned on now. How long will it take to drain the tank if water is flowing out at a rate of 4 litres/min?

Answer: (b)_____ _____ [2m]

43. Mrs Kumar bought 5 more pens than pencils. She spent a total of $45. Each pencil cost $1.20 and each pen cost $0.60 more. How many pens and pencils did Mrs Kumar buy altogether?

Answer: _____ [4m]

44. There was an equal amount of red and green beans in a basket. 0.2 of the red beans and 30% of the green beans were used up. If the amount of red and green beans left is 6 kg, what was the weight of the red beans at first? Give your answer in grams.

45. The figure below shows a square of side 28 cm and 2 circles. P is the centre of the big circle. Find the total area of the shaded parts. (Take $\pi = \dfrac{22}{7}$)
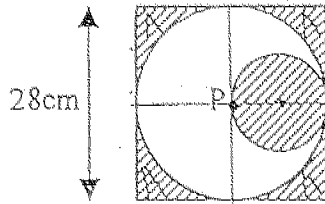

Answer: _____ [4m]

46. Linda has 20% as many sweets as Santhi whereas Santhi has 125% as many sweets as Zalifah. If Santhi gives 9 sweets to Zalifah, Santhi and Zalifah will then have an equal number of sweets. Find the average number of sweets the 3 of them have.

[4m]

47. Mr Lim took a total of 4 hours to drive from Town A to Town B. He travelled the first $\frac{2}{5}$ of the journey at a speed of 96 km/h. The next $\frac{3}{10}$ of the journey took him 70 min. At what speed did he travel the last part of the journey if the average speed of the whole journey was 90 km/h?

Answer: _____ [5m]

48. The figure below is made up of a triangle EFG overlapping a rectangle ABCD of area 360m².
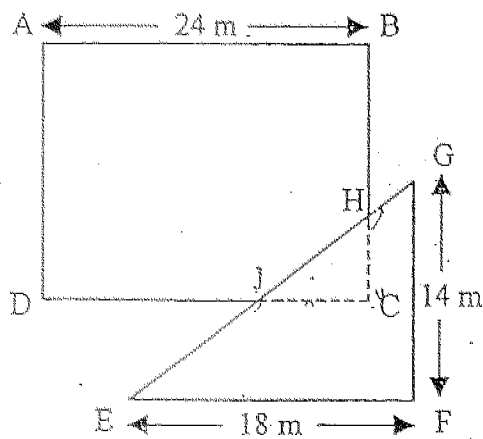
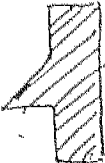Given that CH is $\frac{1}{3}$ of BC and CJ is $\frac{1}{3}$ of CD, find the area of the figure.

49. Zaliha saved some money in the form of $2, $5 and $10 notes. The *value* of the $2, $5 and $10 notes was in the ratio of $3 : 10 : 5$. After taking out $\frac{2}{3}$ of the $2 notes and 16 of the $5 notes to pay for a trip to Malacca, she had $240 left. Find the value of the $10 notes that she had saved.
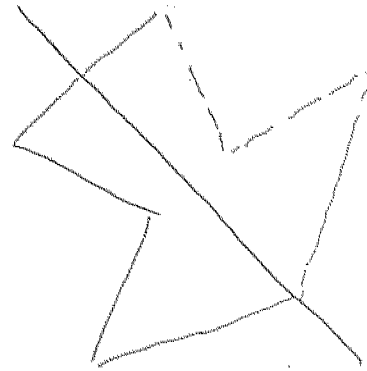
Answer: _____ [5m]

50. 5 boys and 6 girls shared a number of drink coupons. The girls got $\frac{2}{5}$ as many coupons as the boys. Each boy received 20 coupons more than each girl. How many more coupons did the boys receive than the girls?

Answer: _____ [5m]

HOKIEN HUAY KUAN 5-SCHOOL PRIMARY 6
COMBINED PRELIMINARY EXAMINATION (1)
MATHEMATICS

1) 2

2) 3

3) 2

4) 3

5) 1

6) 2

7) 4

8) 2

9) 3

10) 3

11) 3

12) 2

13) 1

14) 2

15) 2

16) 41.61

17) 4

18) 27000

19) 3.43

20) 4a + 2

21) 8

22) 6/35

23) 2.35

24) 16.90

25) 25

26) 614

27) 1/5

28) 139

29) 55

30) 2 : 7

31) 40

32) 34

33) 300

34)

35)

36) 10 stickets

37) 11 free admission tickets

38) 27 cm^3

39) 3 hours

40) 80 cm

41) a) Post Office

b) MRT Station

c) 225°

42) a) 8000 cm^3

b) 25 min

43) 29 pens and pencils

44) 4000 g

45) 322 cm^2

46) 60

47) 81 km/h

48) 466 m^2

49) $ 100

50) 90 more coupons

HOKKIEN HUAY KUAN 5-SCHOOL PRIMARY 6 COMBINED PRELIMINARY EXAMINATION (II)

TAO NAN · AI TONG · CHONGFU · NAN CHIAU · KONG HWA

Mathematics 2004 数学 MATHEMATICS BOOKLET A
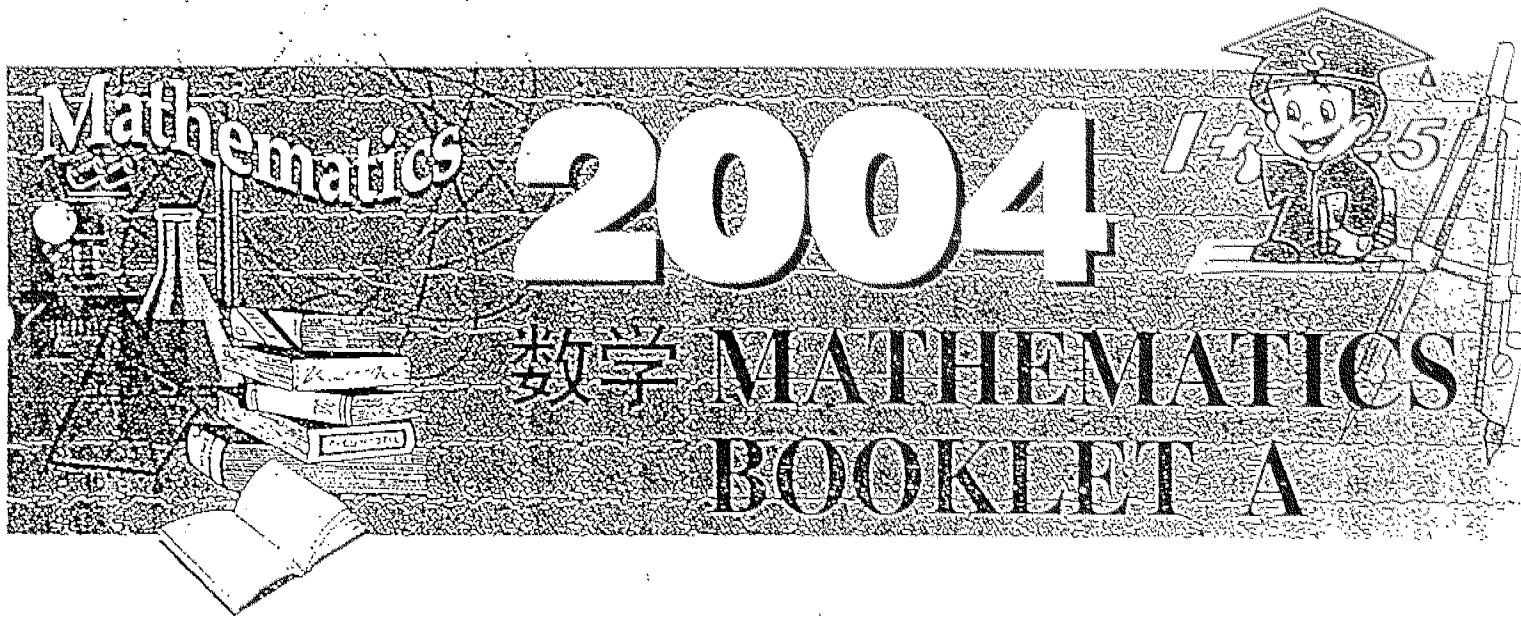
Name : _____ ( ) Marks : / 25

Class : P 6 ( ) Date : _____

15 multiple-choice questions

25 marks

This booklet consists of 4 printed pages.

Total time for Booklets A & B : 2 h 15min

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

Section A (25 marks)

Questions 1 to 5 carry 1 mark each. Questions 6 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.

1   Which one of the following is the likely time that John takes to complete his shuttle
     run in the NAPFA test?

     (1)   1.2 seconds
     (2)   12 seconds
     (3)   1.2 minutes
     (4)   12 minutes

2   ABCD is a parallelogram. ∠ADC= 60° and ∠ABD=25°. Find ∠CBD.
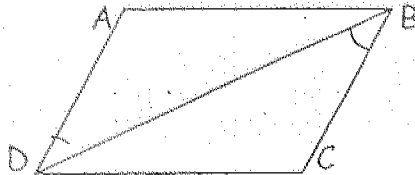
     (1)   25°
     (2)   35°
     (3)   45°
     (4)   60°

3   Which solid will be formed by this net when folded?
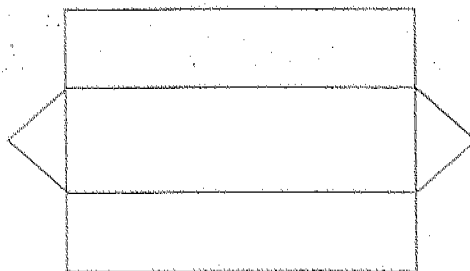
     (1)   a prism
     (2)   a pyramid
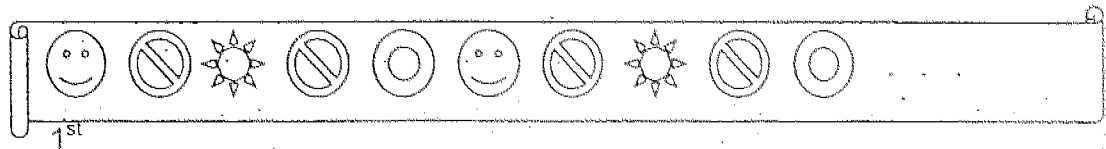   (3)   a cube
     (4)   a cuboid

4   A lorry laden with goods was booked for speeding along the Pan Island
    Expressway. At what speed was the lorry most likely to be travelling?

    (1)   20 km/h
    (2)   40 km/h
    (3)   50 km/h
    (4)   70 km/h

5   The total age of Ali and his brother will be x years in 2 years' time.
    What was their total age 2 years ago?

    (1)   x - 2
    (2)   x - 4
    (3)   x - 6
    (4)   x - 8

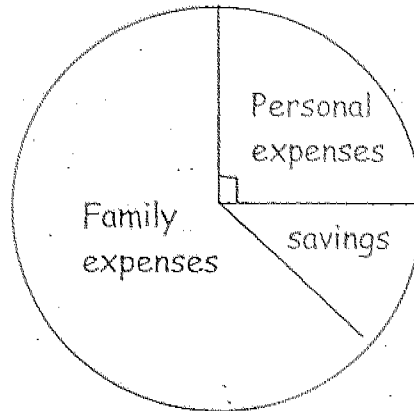6   Look at the pattern below.

    What would the 97th symbol in this pattern be?

    (1)   (2)

    (3)   (4)

7   What is the minimum number of cubes that can be formed from 2001 1-cm cubes?

    (1)   1
    (2)   2
    (3)   3
    (4)   7

The pie chart below shows how Mr Lim spends his monthly salary. He saves 12.5% of his monthly salary. Use the pie chart to answer Q8 to Q10.

8   What percentage of his salary does he spend on his family?

(1)   87.5%
(2)   72.5%
(3)   62.5%
(4)   25.0%

9   Express his total monthly expenses as a fraction of his savings.

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

(2) $\frac{7}{8}$

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

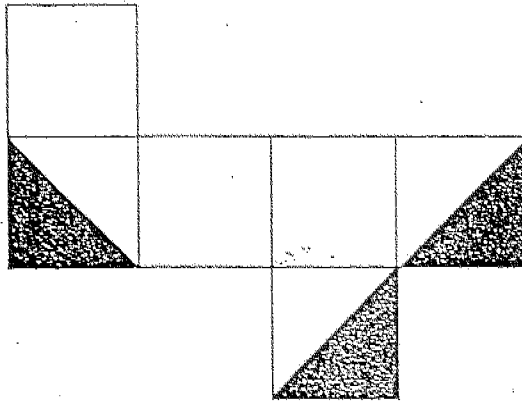(4) $\frac{7}{1}$

10   If his personal expenses is $425, how much will he save in half a year?

(1) $1700.00
(2) $1275.00
(3) $1062.50
(4) $212.50

11   Madam Lee was given $\frac{1}{2}$ of a cake. Madam Wu was given 50% less cake than

Madam Lee. Madam Chan took the rest of the cake. What was the ratio of Madam Chan's share to Madam Lee's to Madam Wu's?
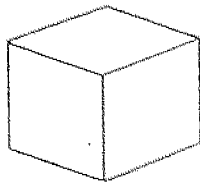
   (1)   2 : 1 : 1
   (2)   2 : 2 : 1
   (3)   1 : 1 : 2
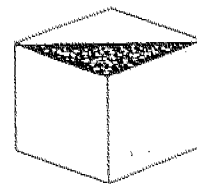   (4)   1 : 2 : 1

12   This is the net of a cube.

Which one of the cubes below can be made from the net above?

(1)

(2)

(3)
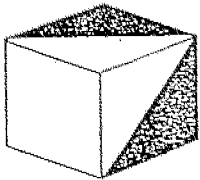
(4)
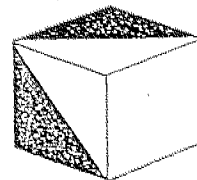
13. The figure shows two shaded rectangles in a square. The shaded parts have areas of 24cm² and 36 cm². Find the length of the square.
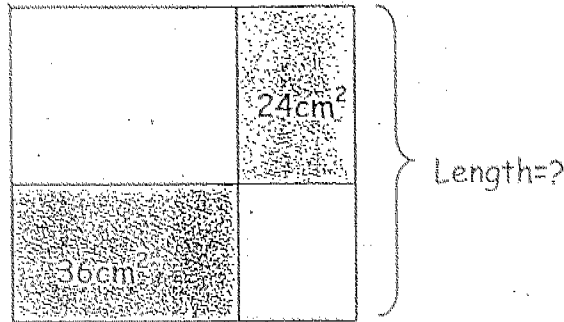
(1) 24cm
(2) 12cm
(3) 6cm
(4) 4cm

14. The average age of 3 people is 21 years old. If they are at least 17 years old, what is the maximum age of the oldest person in the group?

(1) 63
(2) 46
(3) 28
(4) 29

15. 25% of the pupils in a class are girls. How many per cent more boys than girls are there in the class?

(1) 50%
(2) 75%
(3) 100%
(4) 200%

Section B (20 marks)

Each question from 16 to 35 carries 1 mark. Write your answers in the spaces provided. Give your answers in the units stated.

16 Using all the digits below, form the smallest 4-digit number which is a multiple of 5.

6, 0, 5, 3
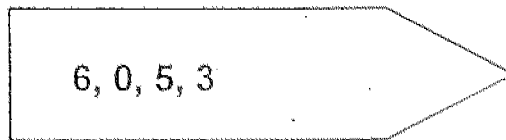
Ans: _____

17 How many whole numbers are there between 500 and 2500?

Ans: _____

18 Evaluate $\frac{2}{3} \div 20$

Ans: _____

19 Tom has to take 25 ml of cough mixture each day. How many days will a 150 ml bottle of cough mixture last?

Ans: _____ days

20 Find the perimeter of the figure below.

20cm

21cm
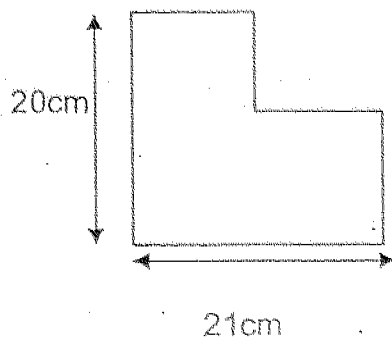
Ans:_____ cm

21 Find the area of a quadrant with a radius of 4cm.
Leave your answer in π.

Ans:_____ cm^2

22 An eraser costs 35 cents. What is the maximum number of
such erasers you can buy with $2 ?

Ans:_____

23 Kelvin's watch was slower than the actual time by 10 min. If the time by Kelvin's
watch was 2.55pm, what was the actual time?

Ans:_____ pm

24 1099cm = _____ m. The answer in the blank is _____.

Ans:_____

The graph below shows the family size of the pupils in a class. Study the graph carefully and answer Q25 and Q26.
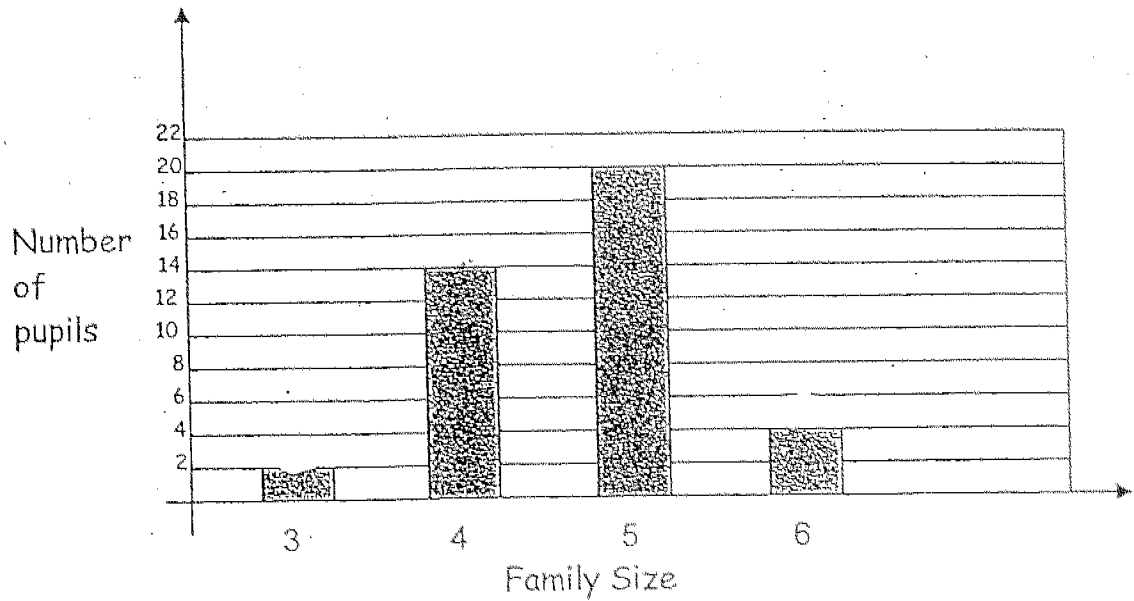
25   There are _____ pupils in the class altogether.

Ans:_____

26   The number of pupils with a family size of 4 is _____ times those with a family size of 3.

Ans:_____

27   Paul is facing South-West. If he makes a $\frac{1}{4}$ turn in the anti-clockwise direction followed by a $\frac{3}{4}$ turn in the clockwise direction, which direction will he be facing?

N
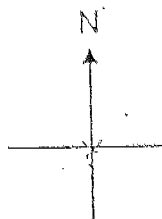
Ans:_____

28   Linda folded a right-angled triangle twice as shown below.
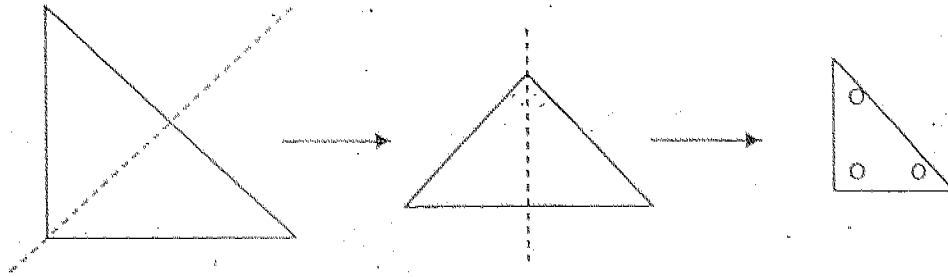
She then punched a hole in each corner of the final triangle and opened the triangle to its original size. How many holes would she see?

Ans:_____

29   In the figure not drawn to scale, ABCD is a trapezium and CP=CB. Calculate ∠BPC.
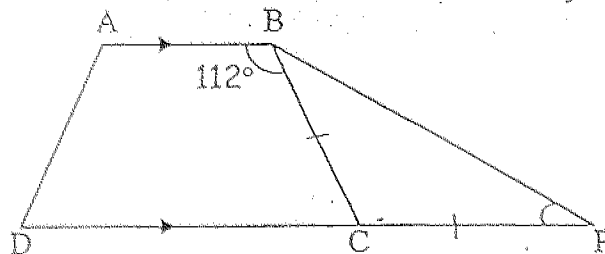
Ans:_____ °

30   Name an angle equal to ∠x.
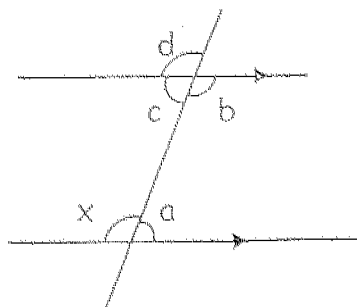
Ans: _____

31   The total age of three pupils is 42 years. Find their average age.

Ans:_____years

32    $\frac{1}{3}$ of Abel's savings is equal to $\frac{1}{2}$ of Benny's savings. What is the ratio of
Benny's savings to Abel's savings?

Ans:_____

33   A machine can seal 1200 envelopes in 15 minutes. At this rate, how long will
it take to seal 3600 envelopes? (Give your answer in hours)

Ans:_____h

34   20% of ☐ = $30. What is answer in the box?

Ans: $_____

35   Simplify a + 3 - 6a + 7a.

Ans:_____

SECTION C (55 MARKS)

For questions 36 to 50, show your working clearly in the space below 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.

36 Linda spent $\frac{1}{4}$ of her money on Monday. She spent $\frac{1}{2}$ of the remainder on Tuesday. What fraction of her money was left?

Ans: _____ (2m)

37 Howard paid $2n for a notebook and a story book. If the story book cost $3 more than the notebook, find the cost of one notebook.

Ans: _____ (2m)

38 Study the given line below.
E is the midpoint of AB and F is the midpoint of CD. Length of AB = Length of CD.
AD = 22 cm and BC = 5 cm.

(a) Find the total length of AB and CD.
(b) Find the length of EF.

Ans:(a)_____(1m)

(b)_____(1m)

39 In a Mathematics quiz consisting of 20 questions, 6 marks were awarded for a correct answer and 4 marks deducted for a wrong answer. How many correct answers did Harold give if he answered all the questions and got 80 marks?

Ans:_____(3m)

40   Study the number pattern below.

$$
\begin{array}{rcll}
1 & = 1 & & 1^{st}\ \text{line} \\
1 + 2 + 1 & = 4 & & 2^{nd}\ \text{line} \\
1 + 2 + 3 + 2 + 1 & = 9 & & 3^{rd}\ \text{line} \\
1 + 2 + 3 + 4 + 3 + 2 + 1 & = 16 & & 4^{th}\ \text{line}
\end{array}
$$

(a) Write down the 6th line of the sequence.
(b) What is the sum of the sequence of the 30th line?

Ans:(a)_____ _(1m)

(b) _____(2m)

41   Study the diagram below which is not drawn to scale.
ABC is an isosceles right-angled triangle. AC is parallel to DE.
$\angle BJI = 20°$ and $\angle GIH = 28°$. Find $\angle DEG$.
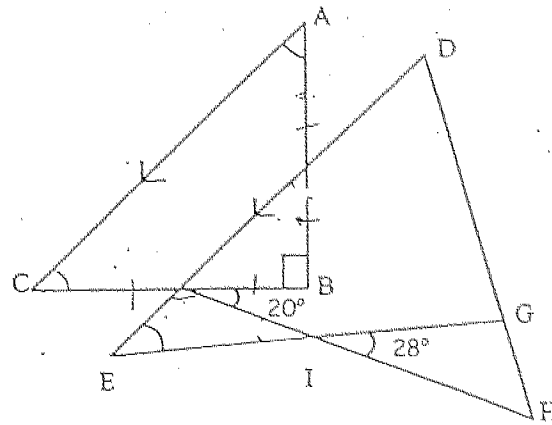
Ans:_____(3m)

42 Mrs Marie bought some apples. She used half of them plus one more to make a pie. She then used half of the remainder plus one more to make a pudding. She gave half of those that were left plus one more to her children and had one left. How many apples did she buy at first?

Ans:_____ (4m)

43 The parking fees at Cheap Building from 7 am to 12 midnight is as
follows:

1ˢᵗ hour	$1.80
Every subsequent half hour or part thereof	$1.00
After 5 p.m.	$3.00 per entry

(a) How much must Mr Rich pay if he parked his car there from 3.45 pm to
5.45 pm?

(b) Mr Poor drove into the car park at 11.50 am. He found that he had only
$4.30 with him. What was the latest time he had to leave the car park so that
he could pay the car park charges?

Ans:(a) _____(2m)

(b)_____(2m)

44 A goat is tied to a stationary pole using a 1.5 m rope. It eats 1 square metre of grass in 12 minutes. Find the time taken if it is to eat all the grass within its reach. Give your answer correct to the nearest minute.
(Take $\pi = 3.14$)

Ans:_____ _____(4m)

45   In the figure below, ABCD is a 56-cm square. E is the mid-point of BC and
      F is the mid-point of DC. X and Y are quarter circles and Z is a semi-circle.
      Find the shaded area. (Take $\pi = \dfrac{22}{7}$)
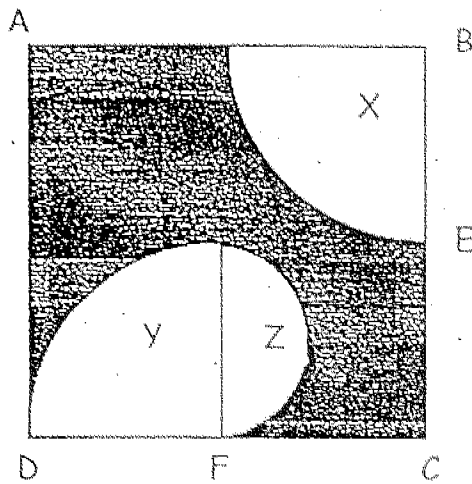
                                                              Ans:_____ _____(4m)

46 There are two tins of candies, Y and Z. The ratio of the weight of Y
to the weight of Z is 4 : 1. If 26 g of candies is transferred from Y
to Z, the ratio of the weight of Y to the weight of Z is 7 : 5.
Find the total weight of the two tins of candies.

Ans:_____(4m)

19

47 Mr Merry is paid $1.10 for every Christmas tree he plants. He receives a bonus of $20 for every 150 trees he plants. How many Christmas trees must he plant to earn $1002?

Ans:_____(5 m)

48 Harrod is 1 m shorter than his father and half as tall as his mother. His father is taller than his mother by 20 cm.

(a) What is the average height of the three ?
(b) What fraction of his father's height is Harrod's height?

Ans:(a) _____ (4m)

(b) _____ _____ (1m)

49 A car and a van were travelling from Town P to Town Q which were
480 km apart. The van left Town P at 8.15 am and drove towards Town Q at an
average speed of of 64 km/h. The car set off 1 hour later than the van but it arrived
at Town Q 15 minutes earlier.

(a) At what time did the car arrive at Town Q?
(b) How much faster was the car travelling than the van per hour ?

Ans:(a)_____ ____(3m)

(b)_____ ____(2m)

50 The cost of building a cupboard is as follows: $300 for wood, $260 for paint and $240 for wages. If the costs of paint and wages are increased by 20% each and the cost of wood is decreased by 20%, find the percentage increase or decrease in the cost of building a cupboard.

Ans: ___ _____(5m)

THE END

HOKKIEN HUAY KUAN 5-SCHOOL PRIMARY 6
COMBINED PRELIMINARY EXAMINATION II
MATHEMATICS

01. 2	11. 4
02. 2	12. 1
03. 1	13. 2
04. 4	14. 4
05. (4)	15. 4
06. 2	
07. 3	
08. 3	
09. 4	
10. 2	

16) 3065

17) 1999

18) 1/30

19) 6

20) 82 cm

21) 4 π

22) 5

23) 3.05

24) 10.99

25) 40

26) 7

27) North East

28) 12

29) 34

30) b

31) 14

32) 2 : 3

33) 3/4 h

34) 150

35) 2a + 3

36) 3/8

37) $(n − 1.50)

38) a) 17 cm

b) 13.5 cm

39) 16

40) a) 1 + 2 + 3 + 4 + 5 + 6 + 5 + 4 + 3+2+1

b) 900

41) 37^0

42) 22

43) a) $ 3.80

b) 2.50 p.m.

44) 85 min

45) 1596 cm^2

46) 120 g

47) 820

48) a) 140 cm

b) 4/9

49) a) 3.30 p.m.

b)

50) 5% increase