SA2

Index No.

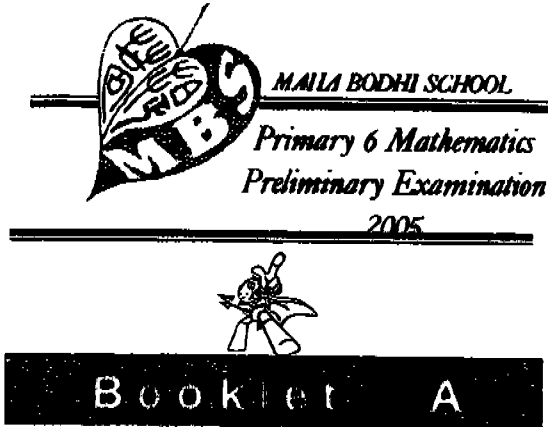*MAHA BODHI SCHOOL*

Primary 6 Mathematics
Preliminary Examination
2005

Booklet A

35 Questions

45 marks

Total Time for Booklets A & B : 2 hours 15 minutes

- ♦ **DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.**
- ♦ **FOLLOW ALL INSTRUCTIONS CAREFULLY.**
- ♦ **ANSWER ALL THE QUESTIONS.**
- ♦ **YOU WILL FIND PAGES 1 – 12 IN THIS BOOKLET.**
- ♦ **FOR QUESTIONS IN *SECTION A*, SHADE YOUR ANSWERS ON THE *OAS* PROVIDED. FOR QUESTIONS IN *SECTION B*, WRITE YOUR ANSWERS ON THE *ANSWER SHEET*.**

Name: _____ (   )   Date: **23rd August 2005**

Class: Primary 6 (   )

Section A- Multiple-Choice Questions (25 marks)
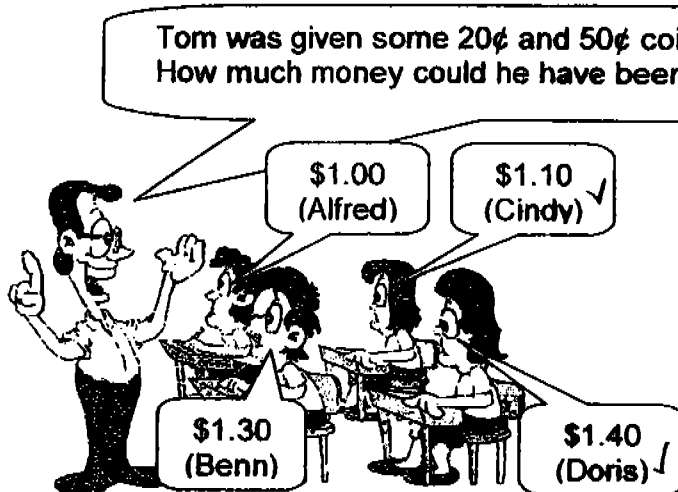
Questions 1 - 5 carry 1 mark each.
Questions 6 - 15 carry 2 marks each.
For each question, four options are given. One of them is the correct answer.
Make your choice (1, 2, 3 or 4) and shade the number in the corresponding oval on the OAS.
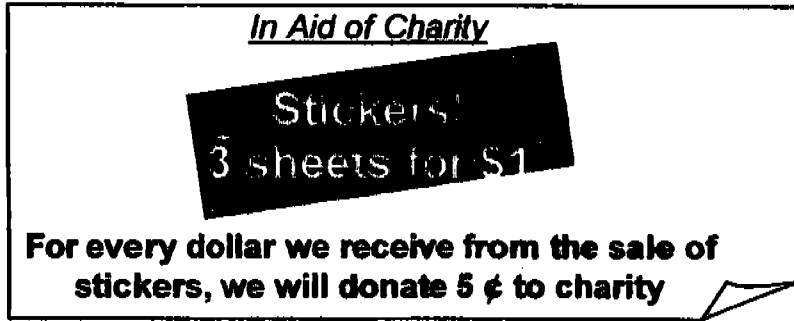
1.   Mother bought 12 eggs and she broke some of them.
     Only a fraction of the eggs she bought were not broken.
     Which one of the following <u>cannot</u> be it?

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

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

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

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

Tom was given some 20¢ and 50¢ coins.
How much money could he have been given?

$1.00 (Alfred)
$1.10 (Cindy) ✓
$1.30 (Benn)
$1.40 (Doris) ✓

2.   Whose answer could possibly be correct?
     (1)   Alfred, Benn and Cindy
     (2)   Benn, Cindy and Doris
     (3)   Alfred, Cindy and Doris
     (4)   Alfred, Benn and Doris

3.   For every 3 boxes that a new worker can pack, an experienced
     worker can pack 4. In an hour, a new worker can pack 24
     boxes. How many boxes can 3 experienced workers pack in half
     an hour?
   (1)   32
     (2)   48
   (3)   72
     (4)   96

Study the poster shown below before you answer Question 4.

In Aid of Charity

Stickers!
3 sheets for $1

For every dollar we receive from the sale of stickers, we will donate 5 ¢ to charity
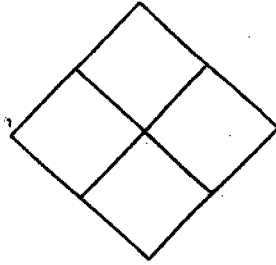
4. **If the bookshop donated $10 from its sales of stickers, how many sheets of stickers did it sell that day?**
   (1)   20
   (2)   30
   (3)   200
   (4)   600

5. **Tom is 5 cm taller than Bob and 2 cm taller than John. Which one of the following pictures clearly shows so?**
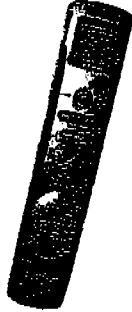
   (1)

   (2)

   (3)

   (4)
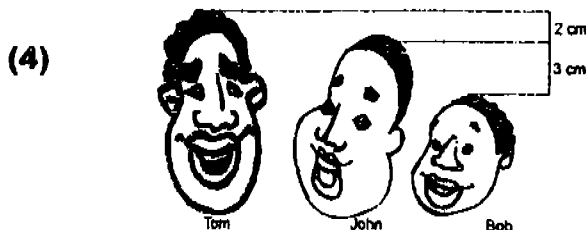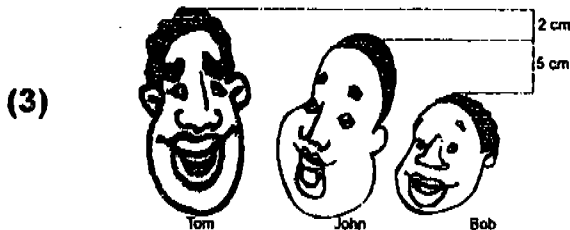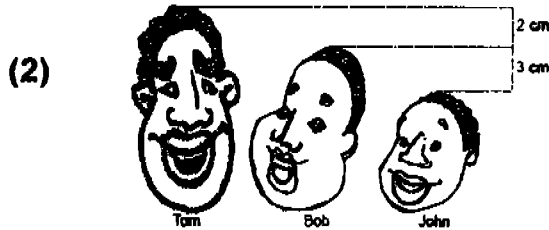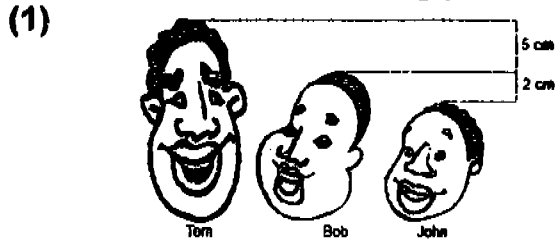
6. The figure above, made up of 4 identical squares, has an area of 100cm². What is the perimeter of each square?
   (1) 10 cm
   (2) 20 cm
   (3) 25 cm
   (4) 40 cm

Voice Recorder
Now you can record in two modes!

High Quality – 60 minutes
Low Quality – 90 minutes

7. How many percent more time can you record on low than high quality using the voice recorder shown above?
   (1) 50 %
   (2) $33\frac{1}{3}$ %
   (3) $66\frac{2}{3}$ %
   (4) 150 %

8. Sam put a blank tape into his video camera and noticed that it was a 60-minute tape. After filming for a while, he noticed that he could still record another 45 minutes on the tape.
What is the ratio of the length of tape left to the length of the tape used?
(1) 3 : 4
(2) 3 : 1
(3) 1 : 4
(4) 1 : 3

9. There are red, blue and yellow beads in a box. There are 5 more blue beads than red ones. The number of yellow beads is twice that of the blue ones. If there are p yellow beads, how many red ones are there?
(1) $2p + 5$
(2) $2p - 5$
(3) $\dfrac{p}{2} + 5$
(4) $\dfrac{p}{2} - 5$

Rose Syrup
1 ℓ per bottle

Fresh Milk
500 mℓ per bottle
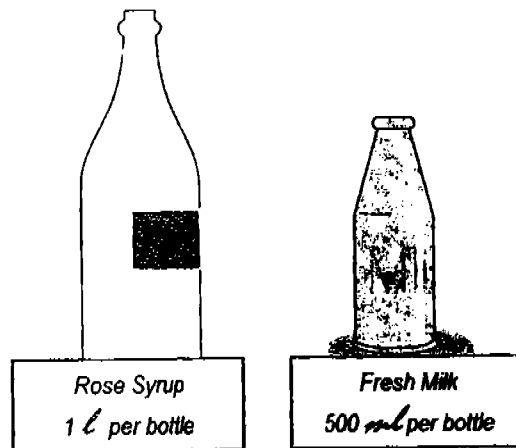
10. To make a certain drink, a hostess would need the amount of rose syrup, fresh milk and water in the ratio 2:3:5.
At a party, 20 ℓ of the drink was prepared. How many more bottles of milk than rose syrup did she use?
(1) 8
(2) 2
(3) 12
(4) 4

11. The solid figure shown below is made up of identical cubes. Its second and third levels are made up of cubes glued together to form square bases.
The diagram below shows the solid figure as viewed from the top.
Study it carefully before answering the following question.

Top view
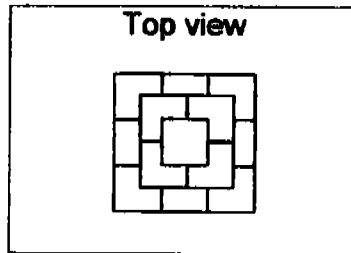
If the height of the solid figure is 9 cm, what is its volume?
- (1)   27 cm^3
- (2)   126 cm^3
- (3)   378 cm^3
- (4)   729 cm^3

12. A photograph was enlarged such that both its length and breadth were doubled. As a result, its new area became _____% more than its original.
- (1)   100%
- (2)   200%
- (3)   300%
- (4)   400%

13. Each of the following solid figures is made up of 5 identical solid cubes. If all of them have to be painted, which one of them will need the _least_ amount of paint?

(1)

(2)

(3)

(4)

Time Taken (in seconds)
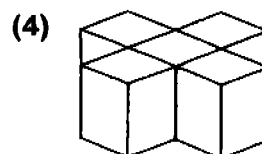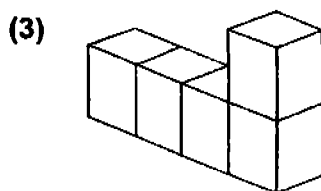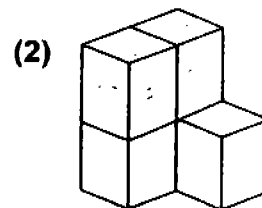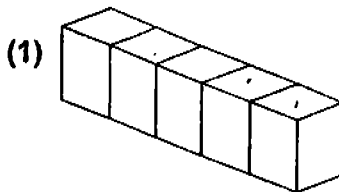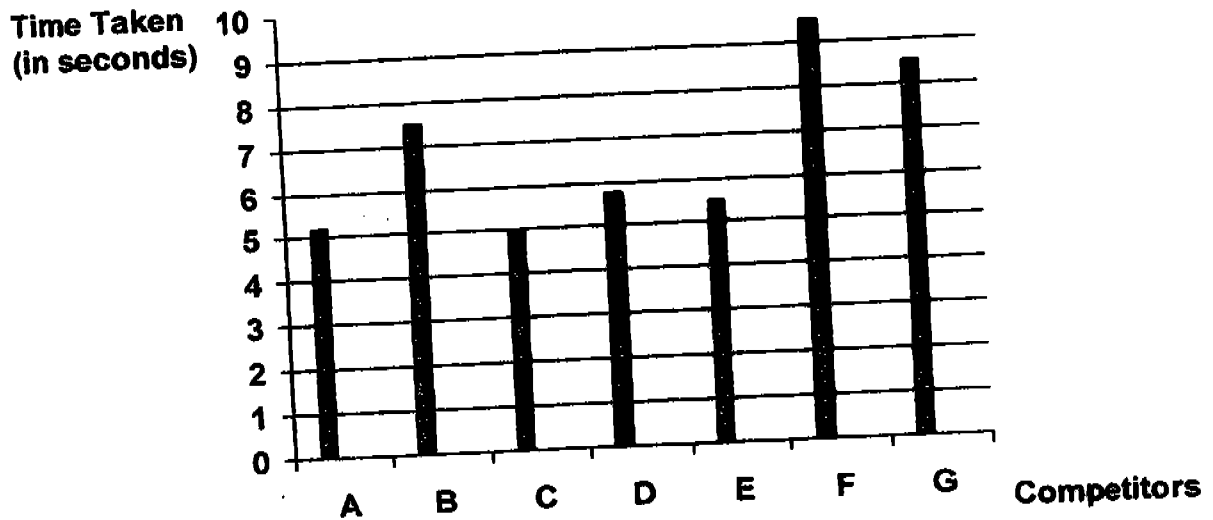
The graph above shows the time taken by 7 girls to complete the 100 m race. The table below shows the names of the winners in the same event. Study them carefully and answer Question 14.

Results of 100m race	
First	Helen
Second	Ivy
Third	Joey
Fourth	Kelly

14. Which letter on the graph shows the time taken by Joey?

   (1)   E
   (2)   D
   (3)   C
   (4)   B

15. Sally cut a small triangle from the bottom of a rectangular piece of paper as shown in the diagram above. She then pasted the triangle onto another part of the rectangle to form a unit shape.

All the following unit shapes can tessellate without flipping the unit shape *except* one of them. Which one is it?
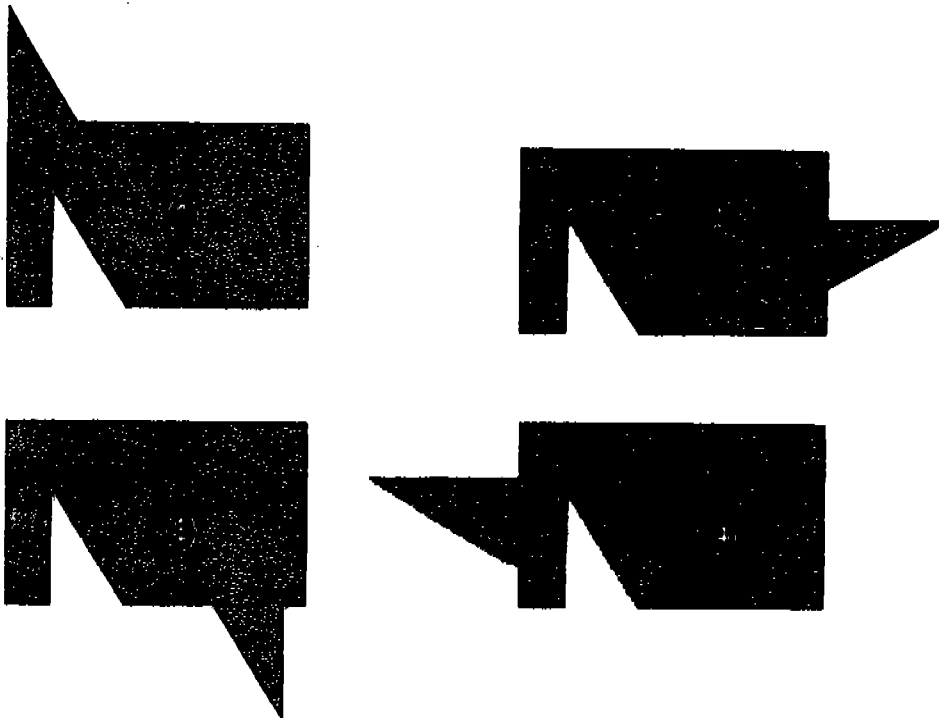
Section B. (20 marks)

Each question from 16 - 35 carries 1 mark.
Write your answers on the <u>Answer Sheet.</u>

16. 56 780 ≈ _____ hundreds

17. How many minutes are there in 2.3 hours?

18. Mother bought $\frac{2}{3}$ of a cake. Sally ate $\frac{1}{6}$ of it.
What fraction of the whole cake was left?

19.   3 tenths more than 4 thousandths = _____

During Chinese New Year, Mother gave Tom a stack of new $100 notes. The serial numbers on the notes were in running sequence (123456, 123457, 123458...).
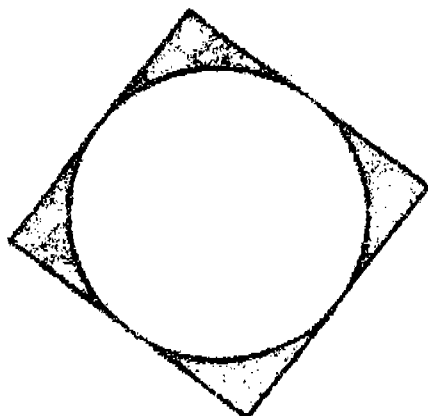Study the diagram below and answer Question 20.
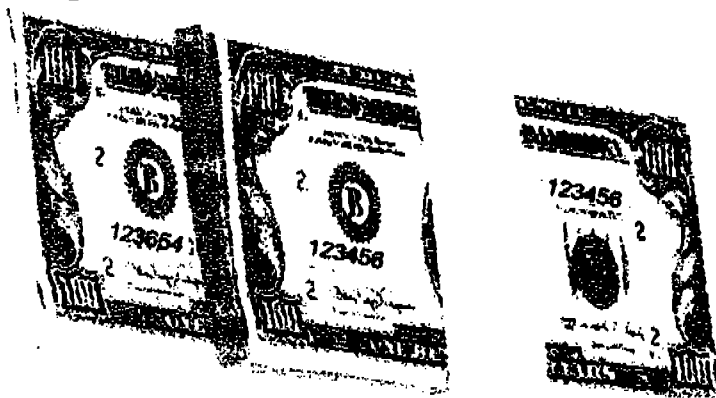
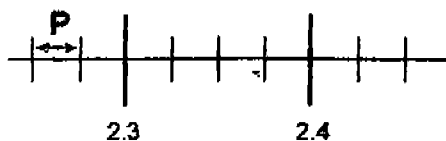20.   How many pieces of $100 notes were in the stack?
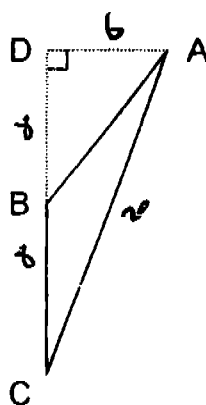
21.   Measure AB.

22.   The diagram below shows a circle within a square.
       If the perimeter of the square is 40 cm, what is the radius of the circle?

2.3   2.4

23.   Look at the diagram above. Write down one possible value of P.

24.   Find the area of triangle ABC if DB=BC, AD= 6cm, AB= 12cm,
       DB = 8cm and AC = 20 cm.

25. $\frac{3}{5}$ of the pupils in the library are boys. What percentage of the
       pupils in the library are girls?

       40 pupils in a Primary 6 class were asked what they would like to
       eat on Children's Day. The table below shows what they have
       picked.
       Study it carefully before answering Question 26.

| McChicken | McNuggets | Filet-o-fish | Cheese Burger |

26.   How many children picked cheese burger?
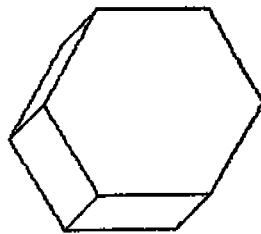
27. How many different shapes will there be in the net of the solid shown above?
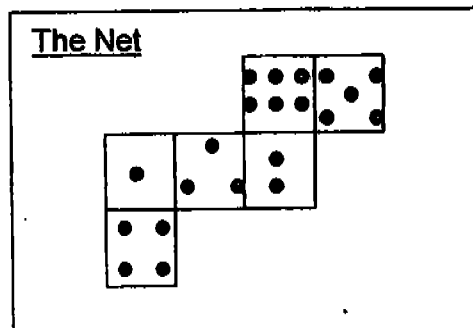
The Net

The diagram above shows the net of the die below.
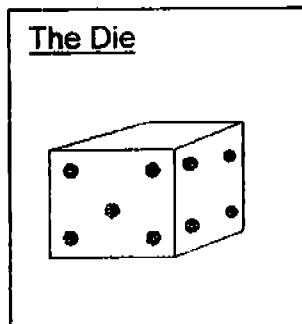
The Die

28. One of the faces of the die is missing in the diagram above.
On the net of the die, colour the missing face.
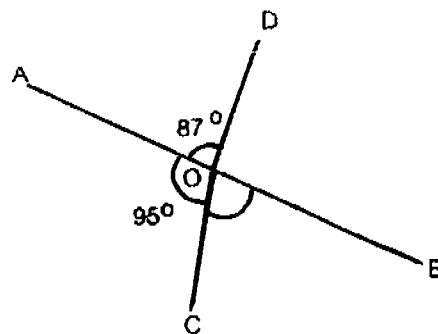
29. In the diagram above, not drawn to scale, AB, OC and OD are straight lines. Given that ∠AOD = 87° and ∠AOC = 95°, find ∠COB.

English	78
Chinese	52
Maths	51
Science	60
Total	241

30.   Kelly's father received the above facsimile of Kelly's Prelim results which is not very clear. However, he knows her average score. What is her average score for the Prelim exams?

38 children were asked what they had for lunch. The bar graph below shows the children's responses. Study it carefully before answering Question 31.

Lunch for Pupils

31.   What fraction of the pupils chose vegetarian food? (Give your answer in the simplest form)

32.   Adzfar has the same number of 20¢ coins and 50¢ coins. If the 50¢ coins add up to be $6, how much money has Adzfar?
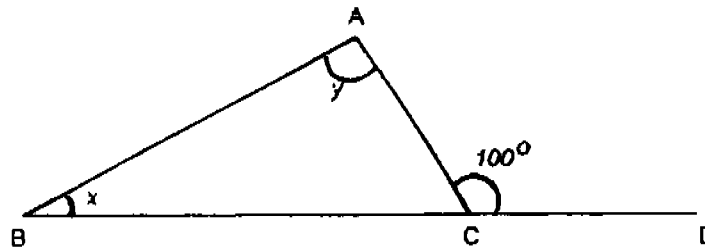
33.   In the diagram shown above, ABC is a triangle and BCD is a straight line. Given that $\angle ACD = 100°$ and that twice $\angle y$ is equal to thrice $\angle x$, find $\angle x$.

34. The diagram above shows a square. Half of it is shaded.
Draw, in the diagram above, a line of symmetry.

35. The hour-hand on the clock face is pointing at '10'.
Using only a ruler and a pencil, draw the minute-hand on the clock
face so that the angle between them is 150°.

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MAHA BODHI SCHOOL
Primary 6 Mathematics
Preliminary Examination
2005
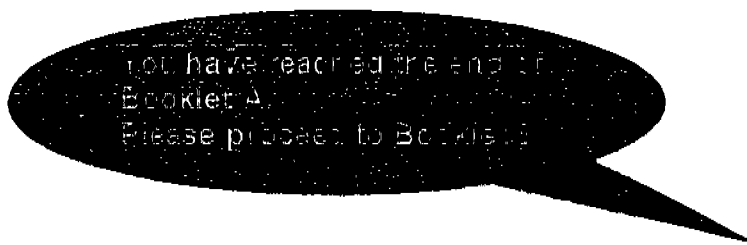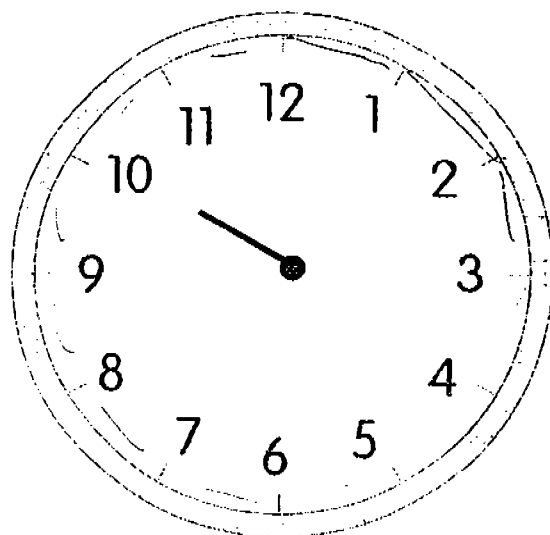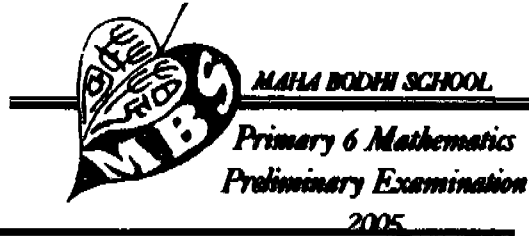
B o o k l e t   B

15 Questions

55 marks

Total Time for Booklets A & B : 2 hours 15 minutes

- ♦ **DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.**
- ♦ **FOLLOW ALL INSTRUCTIONS CAREFULLY.**
- ♦ **ANSWER ALL THE QUESTIONS.**
- ♦ **SHOW ALL YOUR WORKING STEPS CLEARLY IN THE SPACE PROVIDED. OMISSION OF KEY WORKING STEPS OR UNITS OF MEASUREMENT WILL RESULT IN A LOSS OF MARKS.**
- ♦ **YOU WILL FIND PAGES 13 – 25 IN THIS BOOKLET.**

Name: _____ (   )   Date: **23ʳᵈ August 2005**

Class: Primary 6 (   )

Section C   (55 marks)

For questions 36 to 50, write your answers in the spaces provided.
For each question, show your working clearly in the space below each question.
The number of marks for each question or part-question are shown in the brackets ( ).

36.   Sam is 12 years old now and he is thrice his cousin's age.
       What will be the sum of their ages in y years' time?

Answer: _____ _(2m)
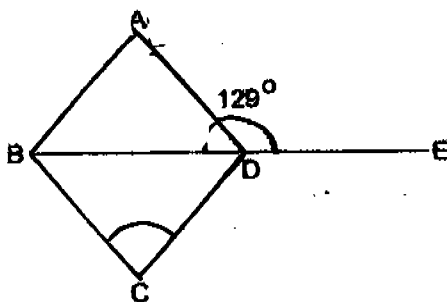
37.   In the diagram shown above, not drawn to scale, ABCD is a rhombus and BE is a straight line.
       If ∠ADE= 129°, find ∠ BCD.

Answer: _____ (2m)

38. Machine A takes 2 hours to print a book while Machine B takes an hour longer. If both machines are used, how long will they take to print the book?
(Leave your answer in hours and minutes)

Answer: _____(2m)

39. A man decided to fill a rectangular pond 1.5 m deep, 1.5 m wide and 2 m long completely with water.
How many litres of water would he need?

Answer: _____(2m)

The table below shows the average marks scored by a group of children. Study it carefully and answer Question 40.

	Number	Average score
Girls	5	80
Boys		68

40. The children scored an average of 73 marks. How many boys are there?

Answer: _____ _____(3m)

15 cm

R

S

12 cm
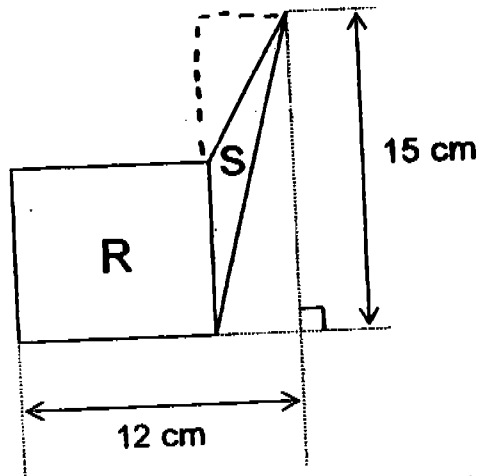
41. The diagram above is made up of a square, R, and a triangle, S. Given that R has an area of 64 cm², find the area of S.

Answer: _____(3m)

42. A farmer planted 48 trees along the perimeter of a square field. He planted each tree at the same distance away from the next as shown in the diagram below. There was a tree on each corner of the field.

1m   2m   3m   4m
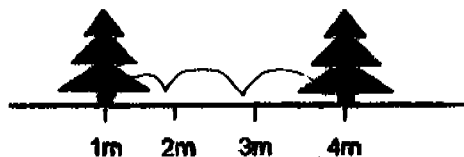
(a) How many trees were there on each side of the field?

(b) What is the area of the field?

Answer: (a) _____(1m)

(b)_____(3m)

The table below provides some information about the people at a swimming complex on a particular afternoon. Study it carefully before answering Question 43.

	Number
Males	68
Females	16
Adults	45
Men	36

43. How many more boys than girls were at the swimming complex?

Answer: _____ _____(4m)

44. There were 20% fewer tourists who visited Sentosa on Monday than on Sunday.

The number of tourists who visited Sentosa on Tuesday was 20% more than on Monday.

If 2400 tourists visited Sentosa on Tuesday, find the average number of tourists who visited Sentosa on the 3 days.

Answer: _____(4m)

45. There were thrice as many boys as girls at the library. After 50 boys and 10 girls had left, there were twice as many girls as boys left. How many children were there in the library at first?

Answer: _____(4m)

46. **The poster below shows the cost of buying a particular kind of paper.**

SPECIAL PAPER

1 Packet of 100 sheets ....$ 10

1 Packet of 250 sheets... $ 20

1 Packet of 500 sheets ... $ 30

(a) **How much cheaper does each sheet of paper cost if you buy a packet containing 500 sheets instead of 100 sheets?**

(b) **A man paid $ 50 for 4 packets of the above paper. How many sheets of paper did he buy in all?**

Answer: (a) _ _____(2m)

(b)_____(3m)

47. The diagram below shows Rectangle ABCD with two identical semi-circles overlapping each other in the shaded part of the rectangle. Given that the area of the shaded part of the rectangle to that of its unshaded part is in the ratio 5:7, find the area of each semi-circle if AB = 12 cm and the shaded part has an area of 100cm².

(Take π = 3.14)
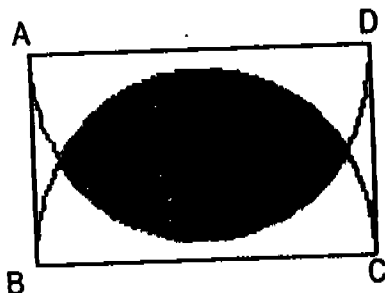
Answer: _____(5m)

48. Sally and Bala took a total of $10 to school one day.

During recess, Sally spent $\frac{3}{4}$ of her money while Bala spent $\frac{1}{3}$ of his. They then had $5.50 left altogether.

(a) How much money did Sally bring to school that day?

(b) How much money did Bala have left?

Answer: (a) _____(4m)

(b)_____ _____(1m)

The table below shows us the speed and time a van and a car entered and exited from a particular expressway in Malaysia. The information presented is not complete. Study it carefully before answering Question 49.

Vehicle	Time of Entry	Uniform speed	Time of Exit
Van	09 30	60 km/h	14 30
Car	11 00	100 km/h	

49. From the information given in the above table, find:
   (a) how long the car was on the expressway and
   (b) how long the car took to meet the van on the expressway.
   (Leave both answers in hours)

Answer: (a) _____ _____(2m)

(b)___ _____(3m)
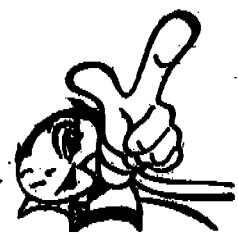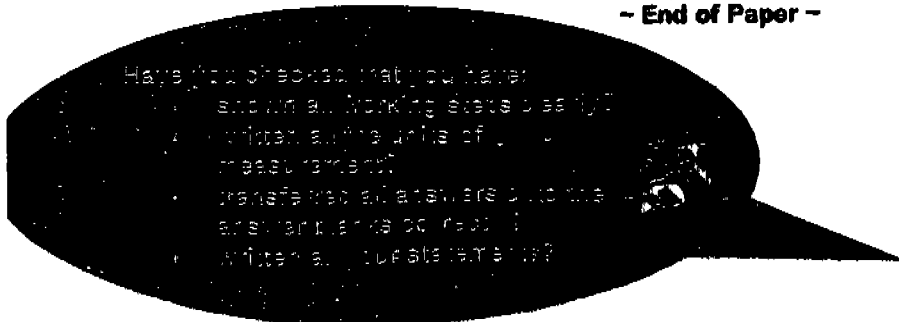
Use the calendar shown below to answer Question 50.

30	31	October				1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

November		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			

50. In October, Mr Lim paid $$25.70 to have a copy of the newspaper delivered to his house daily. The newspaper cost $0.70 per copy except for Sundays which cost 10¢ more. The delivery man also charged a monthly delivery fee. Using the calendar shown above, find:

(a) how much the monthly delivery fee was and

(b) how much Mr Lim paid for the newspapers in November?

Answer: (a) _____(3m)

(b)_____(2m)

– End of Paper –

SA2

MAHA BODHI SCHOOL
PRIMARY 6
MATHEMATICS
PRELIMINARY EXAMINATION 2005

1) 4

2) 2

3) 2

4) 4

5) 4

6) 2

7) 1

8) 2

9) 4

10) 1

11) 3

12) 3

13) 2

14) 1

15) 4

16) 568

17) 138

18) 5/9

19) 0.304

20) 199

21) 5.5

22) 5

23) 2.25

24) 24

25) 40

26) 8

27) 2

28) [:]

29) 85

30) 60.25

31) 3/19

32) 8.40

33) 40

34)

35)

36) (16 + 2y) years old

37) 78°

38) 1 hour 12 minutes

39) 4500 litres

40) 7 boys

41) 16 cm^2

42) a) 13 trees   b) 1296 cm^2

43) 25 more boys

44) 2300 tourists

45) 72 people

46) a) 4¢   b) 550 sheets

47) 157 cm^2

48) a) $ 2.80   b) $ 4.80

49) a) 3 hours   b) 2 1/4 hours

50) a) $ 3.50   b) $ 24.90