SOUTH SYDNEY HIGH SCHOOL

2001
School Certificate
Trial Examination

Mathematics

Section 2
Part B
Question Booklet

Directions for Section 2 Part B

- Allow about 30 minutes to this part
- Part B: Questions 76 – 84 (25 marks)
- Attempt ALL questions
- Write your answers in the space provided after each question
- Calculators MAY be used in this section
- The Formulae on page 4 of the Instruction Booklet may be used in section 2
- Write your answers in the space provided
- Write your student number and/or name at the base of every page

This paper MUST NOT be removed from the examination room

STUDENT NAME/NUMBER: ... ...

Questions 76 to 80 are worth 1 mark each. Each question MAY have MORE THAN ONE correct answer. Fill in the response oval(s) completely.

Question 76

Which of the following calculations are equal to 48 ?

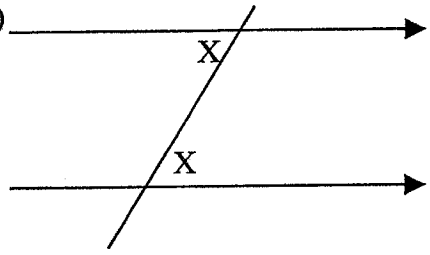
(A) 3×2^4 (B) 3×2^8 (C) 3×4^2 (D) 3×8^2

A ⬭ B ⬭ C ⬭ D ⬭

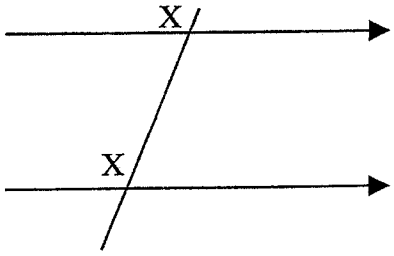
Question 77

Which of the following diagrams show corresponding angles in parallel line ?

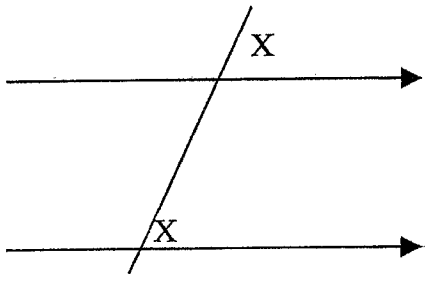
(A)



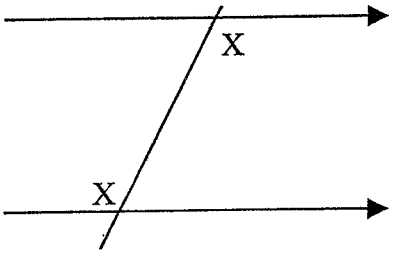
(B)



(C)



(D)



A ⬭ B ⬭ C ⬭ D ⬭

Question 78

Which of the following equations has a solution of $M = 12$?

(A) $2 \times M + 3 = 15$ (B) $(M + 1) \div 3 = 13$

(C) $2 \times M + 3 = M + 15$ (D) $2 \times M + 3 = 27$

A ⬭ B ⬭ C ⬭ D ⬭

STUDENT NAME/NUMBER: ... ...

Question 79

Which of the following statements are true for a parallelogram ?

(A) It has opposite sides equal and parallel.

(B) It has opposite angles equal.

(C) The diagonal of a parallelogram forms two congruent triangles.

(D) The diagonals of a parallelogram forms two similar triangles.

A ⬭ B ⬭ C ⬭ D ⬭

Question 80

A bag contains red marbles to blue marbles in the ratio of 1 : 2.

Which of the following statements are true ?

(A) The probability of selecting a red marble at random is $\frac{1}{3}$.

(B) The probability of selecting a red marble at random is $\frac{1}{2}$.

(C) The probability of selecting a blue marble at random is $\frac{2}{3}$.

(D) The probability of selecting a blue marble at random is $\frac{1}{2}$.

A ⬭ B ⬭ C ⬭ D ⬭

End of questions in Section 2 Part B that may require you to fill in more than one correct answer.

Please turn over

STUDENT NAME/NUMBER: ... ...

Question 81 (5 marks)

A copy of Kobe's timetable is shown below.

TIMETABLE					
Starting times	**Monday**	**Tuesday**	**Wednesday**	**Thursday**	**Friday**
8:40 am	English	Mathematics	Scripture	Science	History
9:25 am	Visual Art	Mathematics	Mathematics	English	Science
10:10 am	**RECESS**				
10:25 am	Mathematics	Science	Spanish	Visual Art	Spanish
11:10 am	History	Science	English	Visual Art	Mathematics
11:55 am	**LUNCH**				
12:50 pm	Spanish	English	SPORT	Mathematics	History
1:35 pm	Spanish	Visual Art	SPORT	History	English
2:20 pm	Science	History	SPORT	Spanish	Visual Art

(a) How many minutes is the lunch break ?

.....

(b) Kobe has a Mathematics Competition to enter on Wednesday, which begins at 11:30 am. In which subject will Kobe be studying when she leaves for the Competition ?

.....

(c) The last period each day ends at 3:10 pm. Kobe arrives at school at 8:15 am each day and leaves on the bell.

How many hours and minutes is she at school each day ?

.....

.....

(d) Due to a special assembly, Period 1 begins at 9:08 am on Friday.Each period is to be shortened by an equal amount of time.

How long will each period be on Friday ?

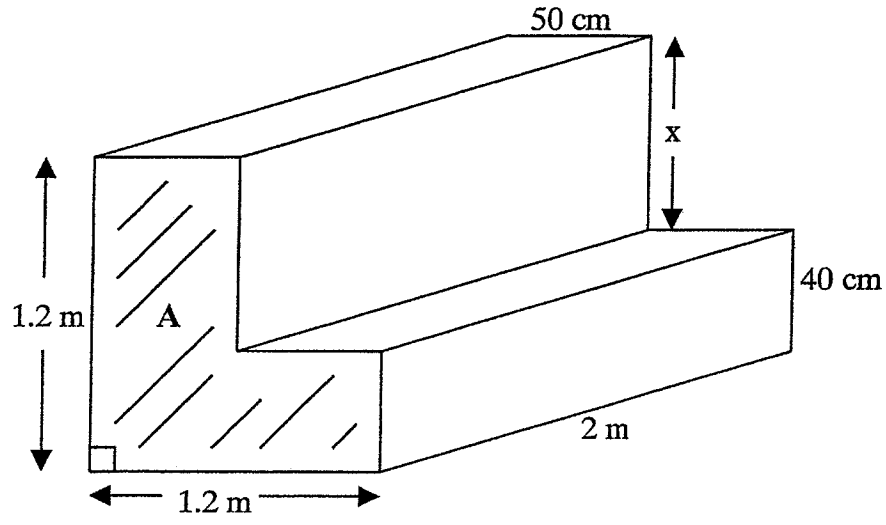
.....

.....

STUDENT NAME/NUMBER: ... ...

Question 82 (5 marks)

A wooden step has been designed as shown below.



(a) Determine the value of x in the diagram.

.....

(b) Calculate the area of A (the cross-section of the solid) in the diagram.

.....

.....

(c) Calculate the volume of the wooden step, in m^3.

.....

.....

(d) What geometrical solid has been removed to form the wooden step ?

.....

(e) Draw a top view of the wooden step.

STUDENT NAME/NUMBER: ... ...

Question 83 (5 marks)

The stem-and-leaf diagram shows the results of a recent Mathematics exam out of 50.

Stem	Leaf
1	9
2	4 5 6 9 9
3	0 2 2 4 4 7 8 9
4	1 1 1 4 6 9
5	

(a) How many students sat this recent Mathematics exam ?

.....

(b) What is the mean result for this exam ?

.....

.....

(c) Find the median for this exam.

.....

.....

(d) What percentage of the class passed this exam ?

.....

.....

(e) One student sat the exam on a later date and scored 42. Her result is **not** shown in the stem-and-leaf diagram shown above.

Which statistical measure changed ?

.....

.....

STUDENT NAME/NUMBER: ... ...

Question 84 (5 marks)

(a) Complete the table :

Number of place settings (P)	6	8	10	20
Number of table legs (L)	4	6	8	

(b) How many place settings are needed for a table with 24 legs ?

.....

.....

(c) The cost of making the smallest table with 4 legs is $480. The cost of longer tables is $120 for each additional pair of legs.

What is the cost of making a table with 10 place settings ?

.....

.....

(d) The total cost of a table was $1 080.

How many place settings would there be on this table ?

.....

.....

End of test

STUDENT NAME/NUMBER: ... ...