DAPTO HIGH SCHOOL

2008
School Certificate
Trial Examination

Mathematics

Instruction Booklet

- Reading Time: 5 minutes
- Working Time: 2 hours
- Write using blue or black pen
- Attempt ALL questions
- This test has TWO sections
- There will be a short break between Section 1 and Section 2
- Calculators may be used in Section 2 only
- The Sample Questions and Formulae Booklet may be used in both Sections
- Write your Student Number/Name on every page

This paper MUST NOT be removed from the examination room

STUDENT NUMBER/NAME: ……………………..

## Instructions for Answering Questions

- Complete your answers in either black or blue pen.

- ALL answers to questions in Section 1 and Section 2 Part B must be written in the spaces provided in the Section 1 and Section 2 Part B Question and Answer Booklets.

- **Completing the diagram**

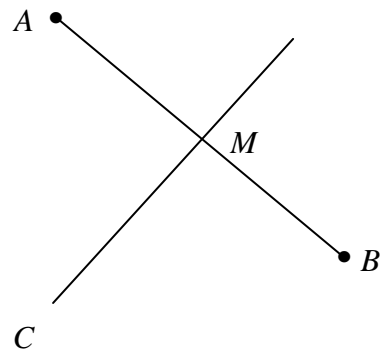 You may wish to use a pencil in questions where you are to complete a diagram.

  Sample 1:

  Draw a line through *C*, perpendicular to *AB*.

  Label the point of intersection of the two lines, *M*.
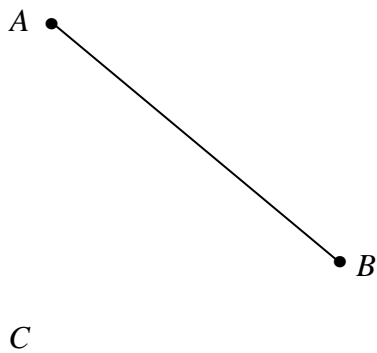
  The question has been answered below.

  Line CM is drawn perpendicular to AB using a set square or a pair of compasses and ruler.

- **Multiple choice**

Complete your answers to the multiple-choice questions (in Section 2 Part A) on the answer sheet provided. Select the alternative A, B, C or D that best answers the question. Fill in the response oval completely.

Sample 2: $2 + 4 =$ (A) 2   (B) 6   (C) 8   (D) 9

A ○   B ●   C ○   D ○

If you think you have made a mistake, put a cross through the incorrect answer and fill in the new answer.

A ●   B ✖   C ○   D ○

If you change your mind and have crossed out what you consider to be the correct answer, then indicate the correct answer by writing the word **correct** and drawing an arrow as follows.

correct

A ●   B ✖   C ○   D ○

- **Multiple-choice questions that may have more than one correct answer**

Complete your answers to the multiple-choice questions that may have more than one correct answer in the Section 2 Part B Answer Sheet.

Sample 3: $\frac{2}{3}$ =   (A) $\frac{2-1}{3-1}$ (B) $\frac{2+1}{3+1}$ (C) $\frac{2 \times 1}{2 \times 1}$ (D) $\frac{2 \div 1}{3 \div 1}$

A ○   B ○   C ●   D ●

Two oval shapes have been filled in to show the two correct answers.

If you think you have made a mistake, put a cross through the incorrect answer and fill in the new answer, as shown in Sample 2.

If you change your mind and have crossed out what you consider to be the correct answer, then indicate the correct answer by writing the word **correct** and drawing an arrow as shown in Sample 2.

FORMULAE

For use in both SECTION 1 and SECTION 2

Circumference of a circle $= \pi \times$ diameter   or $2 \times \pi \times$ radius

$$[\, C = \pi d \,] \qquad\qquad\qquad [\, C = 2\pi r \,]$$

Area of a circle $\qquad\qquad = \pi \times$ radius squared

$$[\, A = \pi^2 \,]$$

Area of a parallelogram $\quad = $ base $\times$ perpendicular height

$$[\, A = bh \,]$$

Area of a rhombus $\qquad\quad = $ half the product of the diagonals

$$\left[\, A = \tfrac{1}{2}xy \,\right]$$

Area of a trapezium $\qquad = $ half the perpendicular height $\times$ the sum of the parallel sides

$$\left[\, A = \tfrac{1}{2}h\,(a + b) \right]$$

Volume of a prism $\qquad\quad = $ base area $\times$ height

$$[\, V = Ah \,]$$

Volume of a cylinder $\qquad = \pi \times$ radius squared $\times$ height

$$[\, V = \pi r^2 h \,]$$

Simple interest $\qquad\qquad = $ principal $\times$ annual interest rate $\times$ number of years

$$[\, I = PRT \,]$$

Pythagoras' theorem states: In a right angled-triangle, the hypotenuse squared is equal to the sum of the squares of the other two sides

$$[\, c^2 = a^2 + b^2 \,]$$