





INTERNATIONAL COMPETITIONS AND ASSESSMENTS FOR SCHOOLS MATHEMATICS

STUDENT'S NAME:

DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED.

Read the instructions on the **ANSWER SHEET** and fill in your **NAME**, **SCHOOL** and **OTHER INFORMATION**. Use a 2B or B pencil. Do **NOT** use a pen. Rub out any mistakes completely.

You MUST record your answers on the ANSWER SHEET.

There are **3 MULTIPLE-CHOICE QUESTIONS** (1–3). Use the information provided to choose the **BEST** answer from the four possible options. On your **ANSWER SHEET** fill in the oval that matches your answer.

There is **ONE FREE-RESPONSE QUESTION** (4). Write your answer in the box provided on the **ANSWER SHEET**.

Your score will be the number of correct answers. Marks are **NOT** deducted for incorrect answers.

You may use a ruler and spare paper. A **CALCULATOR** is required.

PLEASE SEE BACK COVER FOR A LIST OF THE YEAR LEVELS THAT SHOULD SIT THIS PAPER



INTERNATIONAL COMPETITIONS AND ASSESSMENTS FOR SCHOOLS

THE UNIVE EDUCATIONAL ASSESS

HOW TO FILL OUT THIS SHEET: USE 2B OR B PENCIL

- Use 2B or B pencil only.
- Rub out all mistakes completely.
- Print your details clearly in the boxes provided.
- Make sure you fill in only <u>one</u> oval in each column.

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FAMILY NAME

GIVEN NAME

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TO ANSWER THE QUESTIONS

MULTIPLE CHOICE

Questions 1 to 3.

FREE RESPONSE

Question 4.

USE 2B OR B PENCIL

Example: 4 + 6 = ?	Example: 6 + 6 = ?
(A) 2 (B) 9 (C) 10 (D) 24	 The answer is 12, so WRITE your answer in the boxes. Write only ONE digit in each box as shown.

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2		B	G	

В

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. Here is the first unit in a pattern of shapes.



To make the next unit of the pattern, each shape is rotated about its centre as indicated in the table.

Shape	Direction of rotation	Amount of rotation
Circle	anticlockwise (to left)	120°
Square	clockwise (to right)	45°
Equilateral triangle	clockwise (to right)	60°

What is the third unit in this pattern?





THE FOLLOWING YEAR LEVELS SHOULD SIT FOR THIS PAPER:

AUSTRALIA: Year 8 BRUNEI: Form 2 & 3 INDONESIA: Year 9 MALAYSIA: Form 2 NEW ZEALAND: Year 9 PACIFIC: Year 8 SINGAPORE: Sec 1 SOUTH AFRICA: Grade 8

PAPER

Question solutions-Paper F

Question 1

Answer key: Category:	A Chance and data
Options	Reasoning for options
A	Correct. The arrow will be most likely to stop on the symbol with the greatest frequency
В	Incorrect. Star occurs less frequently than arrow.
С	Incorrect. Snowflake occurs infrequently.
D	Incorrect. Sun occurs infrequently.
Difficulty level:	Easy. About 80-100% expected correct.

Question 2

Answer key: Category:	C Number	
<i>Options</i> A 60 B 100	Reasoning for options Incorrect Correct. Convert hours to minut Distance travelled in 1 min	es and m to cm first. = $\frac{150}{240}$ cm
	Distance travelled in 160 min	$=\frac{150}{240}\times$ 160 cm
C 150 D 600	Incorrect Incorrect	= 100 cm
Difficulty level:	Medium. About 31-79% expected	ed correct.

Question 3

Answer key:	A
Category:	Space
Options	Reasoning for options
A	Correct.
В	Incorrect. Does each operation once and there are three operations
С	Incorrect. This is the 4 th unit of the pattern NOT the 3 rd unit as requested.
D	Incorrect. 1 st correct, 2 nd and 3 rd shapes incorrect
Difficulty level:	Hard. Less than 31% expected correct.

Question 4

Answer key: Category:	10 Number
	<i>Reasoning</i> Solve equation: Change all to $\frac{1}{15}$ th. Make sure with order of operation you multiply first. The value of the symbol is $\frac{1}{10}$, with the denominator being 10.
Difficulty level:	Hard. Less than 31% expected correct.