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 pencil. Do NOT use a coloured pencil or a pen.
Rub out any mistakes completely.

You MUST record your answers on the ANSWER SHEET.

Mark only ONE answer for each question.
Your score will be the number of correct answers.
Marks are NOT deducted for incorrect answers.

There are 5 MULTIPLE-CHOICE QUESTIONS (1–5).
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.

You may use a ruler and spare paper.
You are NOT allowed to use a calculator.

Note: Some UNSW Global assessments are only available online.
1. The plans for a new school hall are on display. These plans show a front view, a side view and a top view of the hall.

Which of the diagrams shows a correct three-dimensional view of the new hall?

(A)  
(B)  
(C)  
(D)  

2. A rotary clothes line is 180 cm from the ground at its lowest level and 210 cm when it is at its highest.

When the handle is given one full turn, the height of the clothes line increases by 30 mm.

How many full turns of the handle will it take to raise the clothes line from its lowest to its highest level?

(A) 10  
(B) 30  
(C) 100  
(D) 300  

3. Henry made a pattern with blocks, as shown.

<table>
<thead>
<tr>
<th>Stage</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image1" alt="Block Pattern" /></td>
</tr>
<tr>
<td>2</td>
<td><img src="image2" alt="Block Pattern" /></td>
</tr>
<tr>
<td>3</td>
<td><img src="image3" alt="Block Pattern" /></td>
</tr>
<tr>
<td>4</td>
<td><img src="image4" alt="Block Pattern" /></td>
</tr>
</tbody>
</table>

In Stage 2 Henry used a total of five blocks.

How many blocks does Henry need for Stage 5?

(A) 16  
(B) 17  
(C) 18  
(D) 21
4. Sandra has these pictures on her website.

Picture 1 uses 7.25 KB of memory.

Picture 2 uses 3.323 KB of memory.

Approximately how much memory does Picture 2 use as a percentage of the memory used by Picture 1?

(A) 54%
(B) 46%
(C) 43%
(D) 39%

* Free response questions are only applicable to some assessments.

5.* Lin cut this square picture out of a magazine.

She made an enlarged copy that was still square but twice as wide.

Lin cut off a rectangle from the right of the picture.

The picture was now a rectangle whose width was \( \frac{2}{3} \) of the height.

She then doubled the width of the picture.

The area of the rectangle was now 139 968 mm\(^2\).

How high, in mm, was the original picture?

END OF PAPER
4. Sandra has these pictures on her website. Picture 1 uses 7.25 KB of memory. Picture 2 uses 3.323 KB of memory. Approximately how much memory does Picture 2 use as a percentage of the memory used by Picture 1?

(A) 54%
(B) 46%
(C) 43%
(D) 39%

5. Lin cut this square picture out of a magazine. She made an enlarged copy that was still square but twice as wide. Lin cut off a rectangle from the right of the picture. The picture was now a rectangle whose width was \( \frac{2}{3} \) of the height. She then doubled the width of the picture. The area of the rectangle was now 139 968 mm\(^2\). How high, in mm, was the original picture?
HOW TO FILL OUT THIS SHEET:

**USE A PENCIL**

- Print your details clearly in the boxes provided.
- Make sure you fill in only one oval in each column.
- Rub out all mistakes completely.
- Do not use a coloured pencil or pen.

FIRST NAME to appear on certificate

EXAMPLE 1: Debbie Bach

<table>
<thead>
<tr>
<th>FIRST NAME</th>
<th>LAST NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEBBIE</td>
<td>BACH</td>
</tr>
</tbody>
</table>

EXAMPLE 2: Chan Ai Beng

<table>
<thead>
<tr>
<th>FIRST NAME</th>
<th>LAST NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAN</td>
<td>AI BENG</td>
</tr>
</tbody>
</table>

EXAMPLE 3: Jamal bin Abas

<table>
<thead>
<tr>
<th>FIRST NAME</th>
<th>LAST NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZAMAL</td>
<td>BIN ABAS</td>
</tr>
</tbody>
</table>

Are you male or female?  ○ Male  ○ Female

Does anyone in your home usually speak a language other than English?  ○ Yes  ○ No

School name: ________________________________

Town / suburb: ______________________________

Today's date: ____ / ____ / ____  Postcode: ________

DATE OF BIRTH  STUDENT ID  CLASS
Day  Month  Year  (optional)  (optional)
TO ANSWER THE QUESTIONS
MULTIPLE CHOICE
Questions 1 to 35

Example: \(4 + 6 =\)

(A) 2
(B) 9
(C) 10
(D) 24

The answer is 10, so fill in the oval  \(\square\), as shown.

START

1

2

3

4

5

For details on how we handle your personal information, please see our Privacy Policy on our website at unswglobal.unsw.edu.au
Let \( x \) be the side length of the original picture.

After the first transformation, the picture is still a square, but now with a side length of \( 2x \).

After cutting off a rectangle from the right of the picture, the picture is now a rectangle with height \( 2x \) and width \( \frac{4}{3}x \) of \( 2x \) which equals \( \frac{4}{3}x \).

After the final transformation, the width is doubled, \( \frac{8}{3}x \), but the height stays the same, \( 2x \).

The area of the picture is now \( 139 \, 968 \, \text{mm}^2 \).

Hence,

\[
2x \times \frac{8x}{3} = 139 \, 968
\]

\[
\frac{16x^2}{3} = 139 \, 968
\]

\[
x^2 = \frac{139 \, 968 \times 3}{16}
\]

\[
x = \sqrt{26 \, 244}
\]

\[
x = 162
\]
**Level of difficulty** refers to the expected level of difficulty for the question.

- **Easy**: more than 70% of candidates will choose the correct option
- **Medium**: about 50–70% of candidates will choose the correct option
- **Medium/Hard**: about 30–50% of candidates will choose the correct option
- **Hard**: less than 30% of candidates will choose the correct option
<table>
<thead>
<tr>
<th>Region</th>
<th>Year Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia¹</td>
<td>Year 9</td>
</tr>
<tr>
<td>Brunei</td>
<td>Form 4</td>
</tr>
<tr>
<td>Egypt</td>
<td>Year 9</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Form 3</td>
</tr>
<tr>
<td>Indian Subcontinent²</td>
<td>Class 9</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Year 10</td>
</tr>
<tr>
<td>Malaysia</td>
<td>Form 3</td>
</tr>
<tr>
<td>Middle East³</td>
<td>Class 9</td>
</tr>
<tr>
<td>New Zealand/ Pacific⁴</td>
<td>Year 10</td>
</tr>
<tr>
<td>Singapore</td>
<td>Secondary 2</td>
</tr>
<tr>
<td>Southern Africa⁵</td>
<td>Grade 9</td>
</tr>
</tbody>
</table>

¹ All international schools registered with UNSW Global (which have an 8-digit school code starting with 46) should sit the papers according to the Australian year levels.
² Indian Subcontinent Region: India, Sri Lanka, Nepal, Bhutan and Bangladesh
³ Middle East Region: United Arab Emirates, Qatar, Kuwait, Saudi Arabia, Bahrain, Oman, Turkey, Lebanon, Tunisia, Morocco, Libya, Algeria, Jordan and Pakistan.
⁴ Pacific Region: Vanuatu, Papua New Guinea and Fiji.
⁵ Southern Africa Region: South Africa, Botswana, Lesotho, Swaziland, Zimbabwe and Namibia.