PAPER G

PRACTICE QUESTIONS

Mathematics

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.
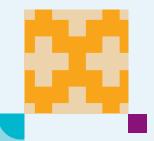Marks are **NOT** deducted for incorrect answers.

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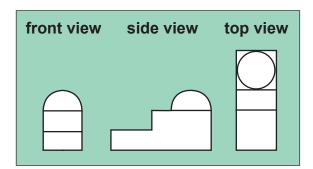
You may use a ruler and spare paper.
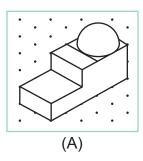You are **NOT** allowed to use a calculator.

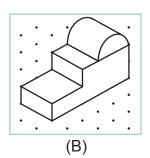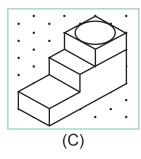*Note*: Some UNSW Global assessments are only available online.

UNSW Global

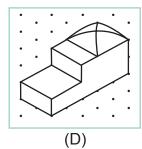1. The plans for a new school hall are on display. These plans show a front view, a side view and a top view of the hall.

front view   side view   top view

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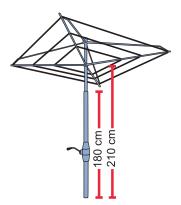

(A)

(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.

180 cm   210 cm

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.

Stage	Picture
1	
2	
3	
4	

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

THIS PAGE MAY BE USED FOR WORKING.

PAPER
G M

REACH ASSESSMENTS™

UNSW Global

USE A PENCIL

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

EXAMPLE 1: *Debbie Bach*

FIRST NAME   LAST NAME
D E B B I E   B A C H

EXAMPLE 2: *Chan Ai Beng*

FIRST NAME   LAST NAME
C H A N   A I   B E N G

EXAMPLE 3: *Jamal bin Abas*

FIRST NAME   LAST NAME
J A M A L   B I N   A B A S

FIRST NAME to appear on certificate

LAST NAME to appear on certificate

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

Day   Month   Year

STUDENT ID
(optional)

CLASS
(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 <u>10</u>, so fill in the oval ⓒ , as shown.

Ⓐ   Ⓑ   ⬤   Ⓓ

START

1 Ⓐ   Ⓑ   ⓒ   Ⓓ

2 Ⓐ   Ⓑ   ⓒ   Ⓓ

3 Ⓐ   Ⓑ   ⓒ   Ⓓ

4 Ⓐ   Ⓑ   ⓒ   Ⓓ

5

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

SAMPLE

QUESTION	KEY	SOLUTION	STRAND	LEVEL OF DIFFICULTY
1	A	Option A correctly matches the front, side and top views. Option B does not match the front view or the top view. Option C does not match the front view or the side view. Option D does not match any view.	Space and Geometry	Easy
2	A	The difference between the clothes line highest and lowest level is $210 - 180 = 30$ cm Convert this to mm is $30 \times 10 = 300$ mm. One full turn of the handle increases the height by 30 mm; therefore we need to divide 300 by 30 which equals 10. It will take 10 full turns of the handle to raise the clothes line from its lowest to its highest level.	Measurement	Easy
3	B	The number of blocks used in the stages shows a pattern: 1, 5, 9, 13… The pattern is continued by adding four blocks to the previous term. So Stage 5 will contain $13 + 4 = 17$ blocks.	Algebra and Patterns	Medium
4	B	3.323 KB as a percentage of 7.25 KB is calculated as $(3.323 \div 7.25) \times 100\% = 45.83427\%$. This is 46% when rounded up.	Number and Arithmetic	Medium
5	162	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 $\frac{2}{3}$ 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 mm². Hence, $$2x \times \frac{8x}{3} = 139\ 968$$ $$\frac{16x^2}{3} = 139\ 968$$ $$x^2 = \frac{139\ 968 \times 3}{16}$$ $$x = \sqrt{26\ 244}$$ $$x = 162$$	Number and Arithmetic	Hard

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

THE FOLLOWING YEAR LEVELS SHOULD SIT THIS PAPER	
Australia[1]	Year 9
Brunei	Form 4
Egypt	Year 9
Hong Kong	Form 3
Indian Subcontinent[2]	Class 9
Indonesia	Year 10
Malaysia	Form 3
Middle East[3]	Class 9
New Zealand/ Pacific[4]	Year 10
Singapore	Secondary 2
Southern Africa[5]	Grade 9

PAPER G

[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.

UNSW Global