

Level 6 Daily Practice

Try these questions and then self mark them. Ask about those questions that you didn't understand. These should take **15** minutes to do the questions.

Sheet 3

Level 6 Daily Practice

You should be able to answer all the questions in this booklet in 15 minutes.

Q1. Rainfall

The table shows information about the rainfall in two places in South America.

Place	Season	Mean rainfall	Number of months	Months
A	Dry	10 cm per month	8	Jan to Aug
	Wet	20 cm per month	4	Sept to Dec

B	Dry	5 cm per month	10	July to Apr
	Wet	50 cm per month	2	May to June

Which of the places has **more rainfall** on average over the whole year?

Show working to explain your answer.

Tick (✓) your answer.

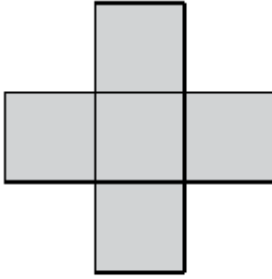
A B

2 marks

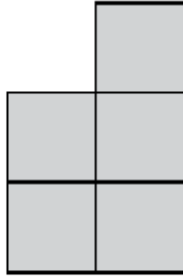
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Q2. Two shapes

Shape A and shape B are each made from five identical squares.



A



B

Not drawn accurately

The **perimeter** of shape A is **72cm**.

Work out the **perimeter** of shape B.

Handwritten scribble

..... cm

2 marks

Q3. Powers

Show that the **difference** between 3^2 and 3^3 is **18**

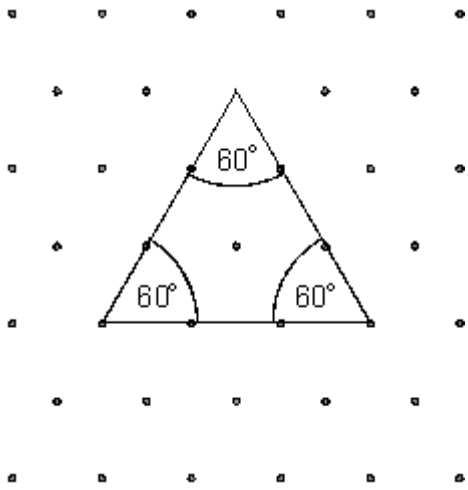
Handwritten scribble

1 mark

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Q4. Shapes on a grid

(a) Look at the equilateral triangle.



Isometric grid

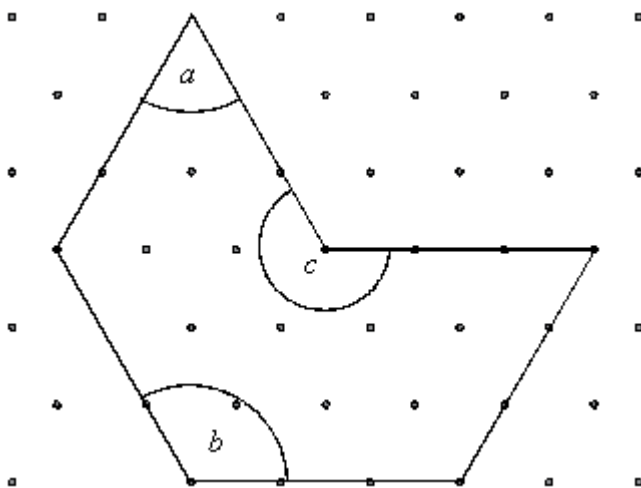
Each angle in an equilateral triangle is 60°

Explain why.



1 mark

(b) Now look at this shape.



Isometric grid

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Work out the sizes of angles a , b and c

Handwritten mark

$$a = \dots\dots\dots^\circ \quad b = \dots\dots\dots^\circ \quad c = \dots\dots\dots^\circ$$

2 marks

Q5. Bicycles

In a survey, pupils were asked if they owned a bicycle.

Results:	$\frac{3}{8}$ of the pupils said 'Yes'. $\frac{5}{8}$ of the pupils said 'No'.
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46 more pupils said 'No' than said 'Yes'.

Altogether, how many pupils were in the survey?

Handwritten mark

.....

2 marks

Q6. Cancelling

Work out

Handwritten mark

$$\frac{1 \times 2 \times 3 \times 4 \times 5}{1 \times 2 \times 3} = \dots\dots\dots$$

1 mark

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Q7. Sequences

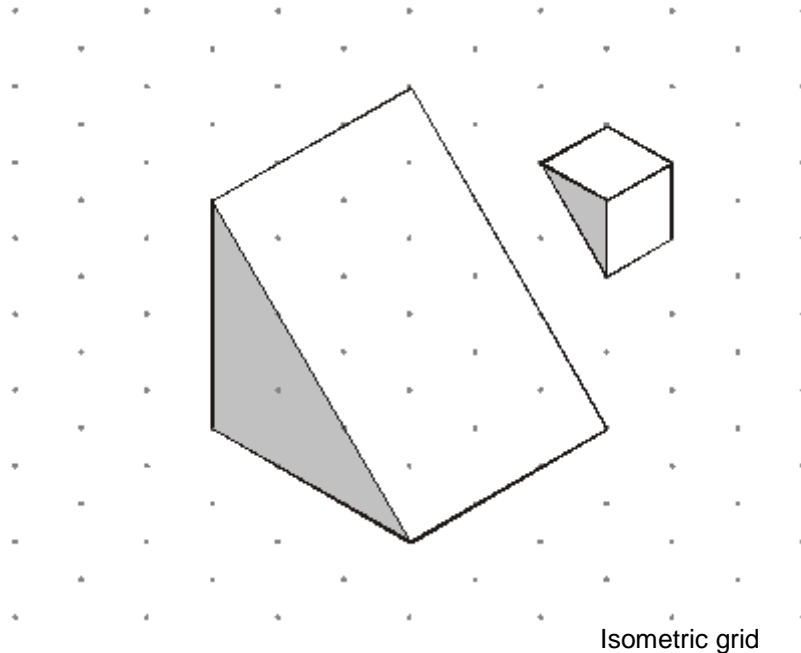
For each sequence below, tick (✓) the correct box to show if it is **increasing**, **decreasing** or **neither**.

				increasing	decreasing	neither
$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{1}{5}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{6}{13}$	$\frac{7}{12}$	$\frac{8}{11}$	$\frac{9}{10}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{1}{2}$	$\frac{2}{4}$	$\frac{3}{6}$	$\frac{4}{8}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
$\frac{3}{2}$	$\frac{4}{3}$	$\frac{5}{4}$	$\frac{6}{5}$	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2 marks

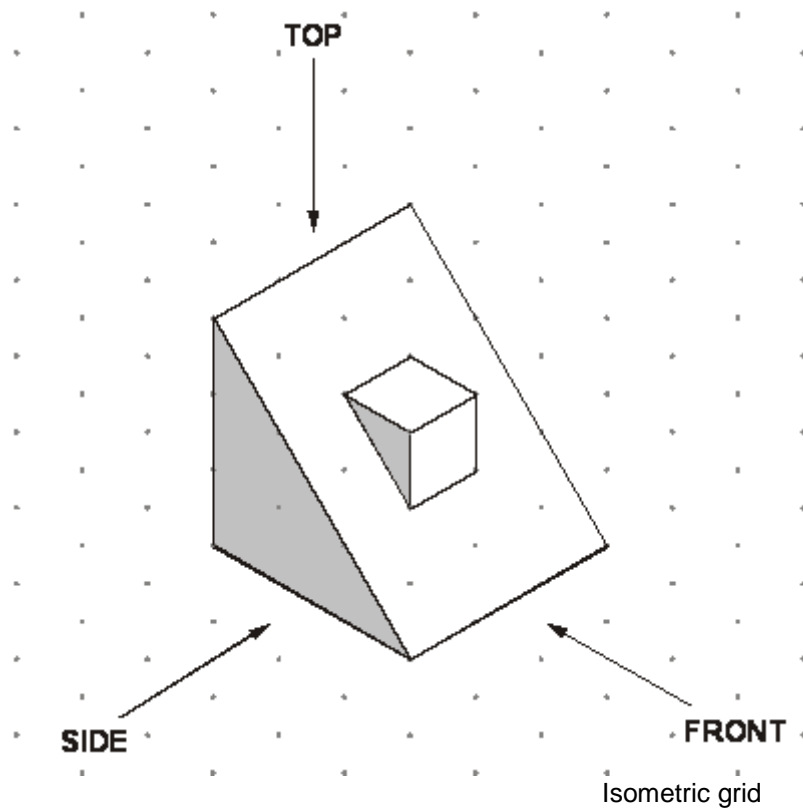
Q8. Views

Look at the two triangular prisms.



They are joined to make the new shape on the next page.

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Complete the views of the new shape on the grid.

The first one is done for you.

View from the TOP	View from the FRONT	View from the SIDE

2 marks

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M1. Indicates place A
and
gives a correct justification
eg

- $10 \times 8 + 20 \times 4 = 160\text{cm}$
 $5 \times 10 + 50 \times 2 = 150\text{cm}$
- $(80 + 80) \div 12 = 13.\dots\text{cm per month}$
 $(50 + 100) \div 12 = 12.5\text{cm per month}$
- $(80 + 80) \div 2 = 80\text{cm per 6 months}$
 $(50 + 100) \div 2 = 75\text{cm per 6 months}$

Accept for 2m, minimally acceptable justification

eg

- 160, 150 seen
- 80, 80 and 50, 100 seen
- $10 \times 8 + 20 \times 4 > 5 \times 10 + 50 \times 2$
- 13.(...), 12.5 seen

2

[2]

M2. 60

2

or Shows the value 6

or

Shows a complete correct method with not more than one computational error

eg

- $72 \div 12 = 8$ (error), $10 \times 8 = 80$

1

(U1)

M3. Gives a correct justification that the difference between 3^2 and 3^3 is 18

eg

- $3^2 = 9$, $3^3 = 27$, and $27 - 9 = 18$
- $3^3 - 3^2 = 3^2(3 - 1)$
 $= 9 \times 2$
 $= 18$

Accept minimally acceptable justification

eg

- $27 - 9$
- $9 + 18 = 27$

Do not accept incomplete or incorrect justification

eg

- $3^2 = 9$, $3^3 = 27$
- $3^3 - 3^2 = 18$
- $9 - 27 = 18$

[1]

M4. (a) Gives a correct explanation

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The most common correct explanations:

Refer to the sum of the angles in a triangle

eg

- The angles are equal and add up to 180, so $180 \div 3 = 60$
- Angles in a triangle add up to 180, the three angles are equal so $60 + 60 + 60 = 180$

Accept minimally acceptable explanation

eg

- $180 \div 3$
- $60 \times 3 = 180$
- The angles are the same and add up to 180

Do not accept incomplete explanation

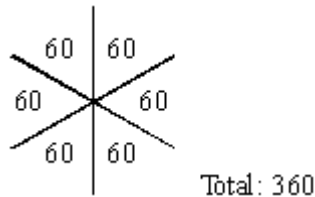
eg

- The three angles add up to 180
- Angles in a triangle add up to 180
- The three angles are equal
- 60×3
- It's an equilateral triangle

Refer to the sum of angles at a point

eg

- You can see that six of the triangles fit together at a point, so $360 \div 6 = 60$
-



Accept minimally acceptable explanation

eg

- $360 \div 6$
- $60 \times 6 = 360$

Do not accept incomplete explanation

eg

- Six of the angles add up to 360
- Angles at a point add up to 360
- 60×6

1

- (b) Gives all three correct angles, ie $a = 60$, $b = 120$ and $c = 240$

2

[3]

M5. 184

2

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M6. 20

[1]

M7. Makes all four correct decisions, ie

increasing	decreasing	neither
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

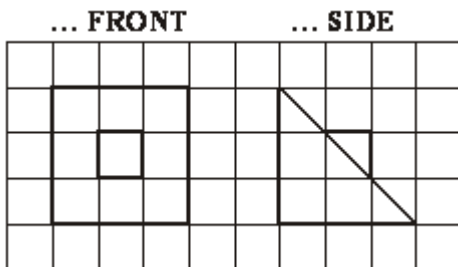
2

or Makes three correct decisions

1

[2]

M8. Draws both views correctly using the grid, ie



2

or Draws one of the views correctly using the grid

or

Draws both views correctly using the grid but transposes their positions

or

Draws both views correctly either without using the grid or of incorrect sizes, provided the length and width of each view are clearly intended to be equal

! Lines not ruled or accurate

Accept provided the pupil's intention is clear

! Shading used

Ignore

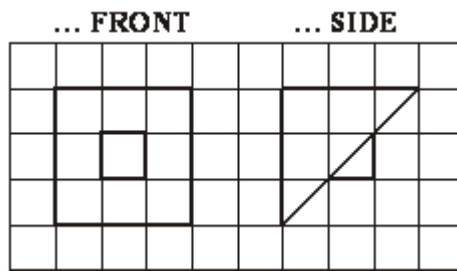
! Correct view from the side in a different orientation

Condone

eg, for 2m accept

•

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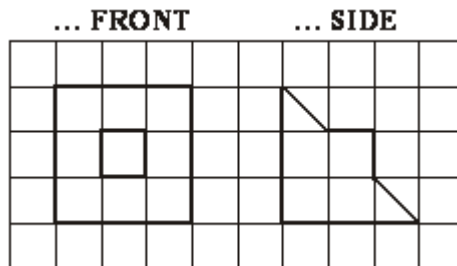


! For 2m or 1m, their side view omits the middle section of the diagonal line

Condone

eg

•



1

[2]