



Year 12 NUMERACY

Assessment Task 1 2025

TOPICS: Location, Space and Design		Marks: / 43	
SUBMISSION REQUIREMENTS: The completed assignment MUST be submitted to your teacher no later than 11:00, Wednesday March 26th (Week 9).	WEIGHTING: 20%	COMPONENTS	
		Understanding fluency and communication 10%	Problem solving, Reasoning & Justification 10%
TASK DESCRIPTION: <p>In this task you will explore existing street libraries and their location. You will then design, plan and construct a model of a street library. Use the photographs on page 8 to help you answer questions 1 to 5.</p> <p>Show all your calculations.</p> <p>Explain your reasoning, including references to any websites you access.</p> <p>Submit your responses either as a hard copy or as a digital file and include your constructed model.</p> <p>Approximately two hours of independent preparation in addition to class time will be required to develop a response.</p>			
ASSESSMENT CRITERIA <p>The assessment of your response to this task will be based on:</p> <ul style="list-style-type: none"> ▪ your application of numeracy knowledge and skills ▪ your numerical reasoning and mathematical thinking (NRMT) ▪ your use of technology to investigate and solve problems. 			
OUTCOMES TO BE ASSESSED: <p>N6-1.3: determines whether an estimate or an answer is reasonable in the context of a problem, evaluates results and communicates conclusions</p> <p>N6-2.2: chooses and applies efficient strategies to analyse and solve everyday problems involving metric relationships, distance and length, area, volume, time, mass, capacity and temperature</p> <p>N6-2.5: chooses and applies efficient strategies to analyse and solve everyday problems involving location, space and design.</p> <p>N6-3.2: chooses and uses appropriate technology to analyse and solve problems, represent information and communicate solutions in a range of practical contexts</p>			
DIRECTIONAL VERBS: <p>Choose: Select from various mathematical strategies or options to solve a problem.</p> <p>Determine: Find or calculate an exact value, solution, or result based on the given information or conditions.</p> <p>Apply: Use, utilise, employ in a particular situation.</p>			

PART A: Some Street Libraries in NSW

Street library

Street libraries are small storage spaces for books that are scattered throughout communities. People passing by can take a book or leave a book for others. Street libraries come in all shapes and sizes. They are frequently decorated to a community theme.

On page 8 there are some photographs of street libraries in NSW. Use these photographs to answer the following questions.

1. Draw a top, front and side view of street library 1.

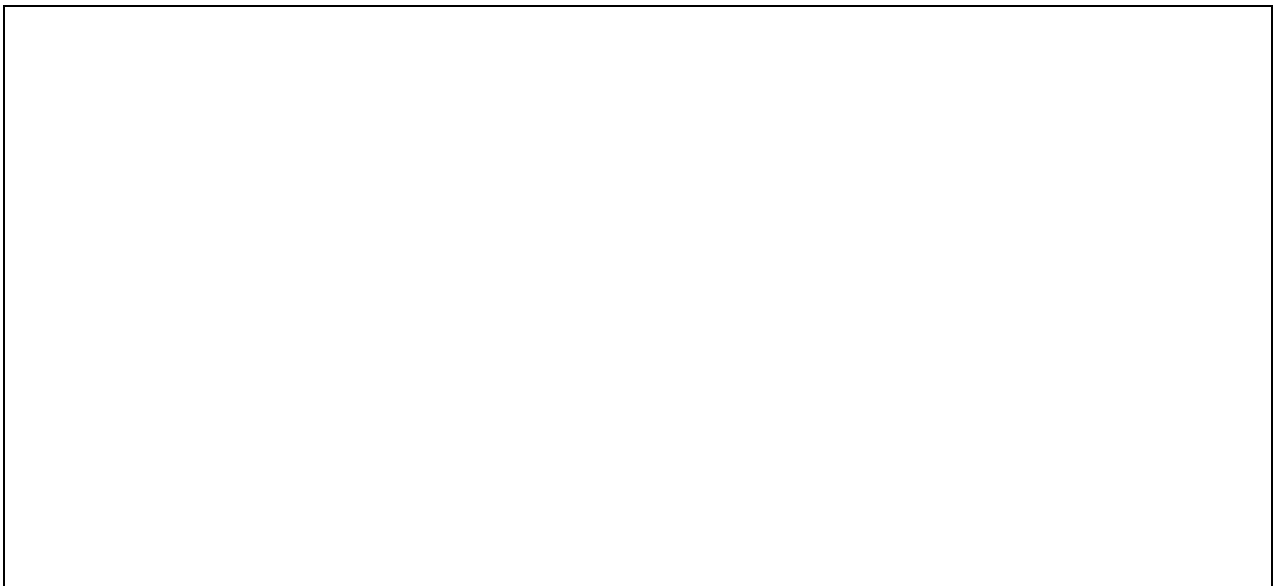
Top View

(1 mark)



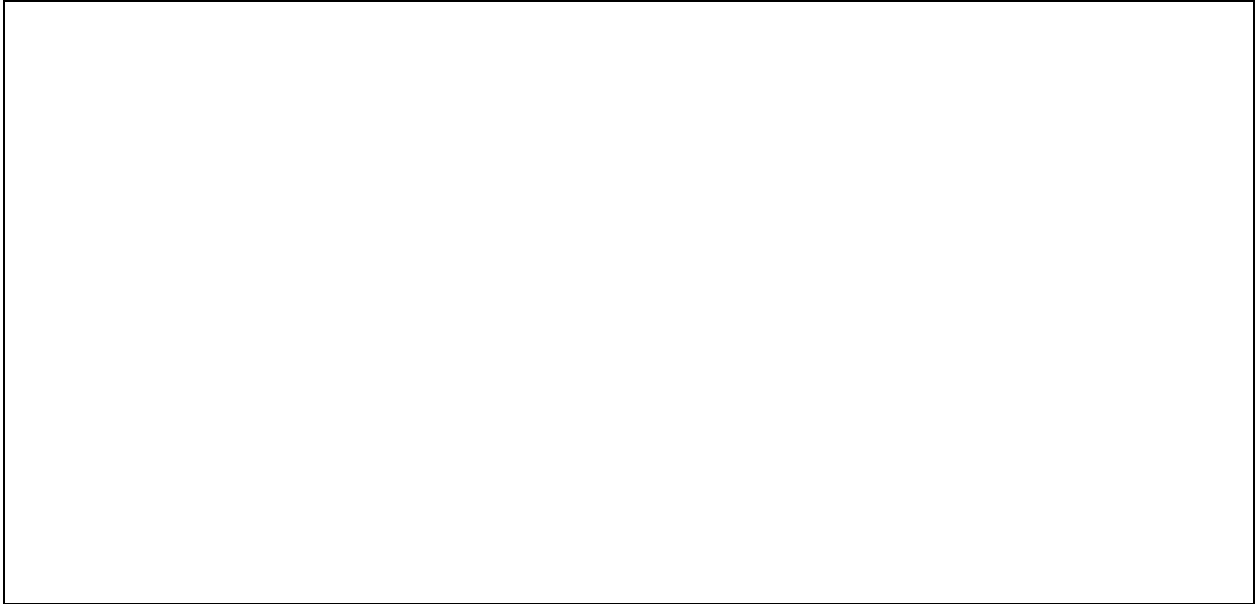
Front View

(1 mark)



Side View

(1 mark)



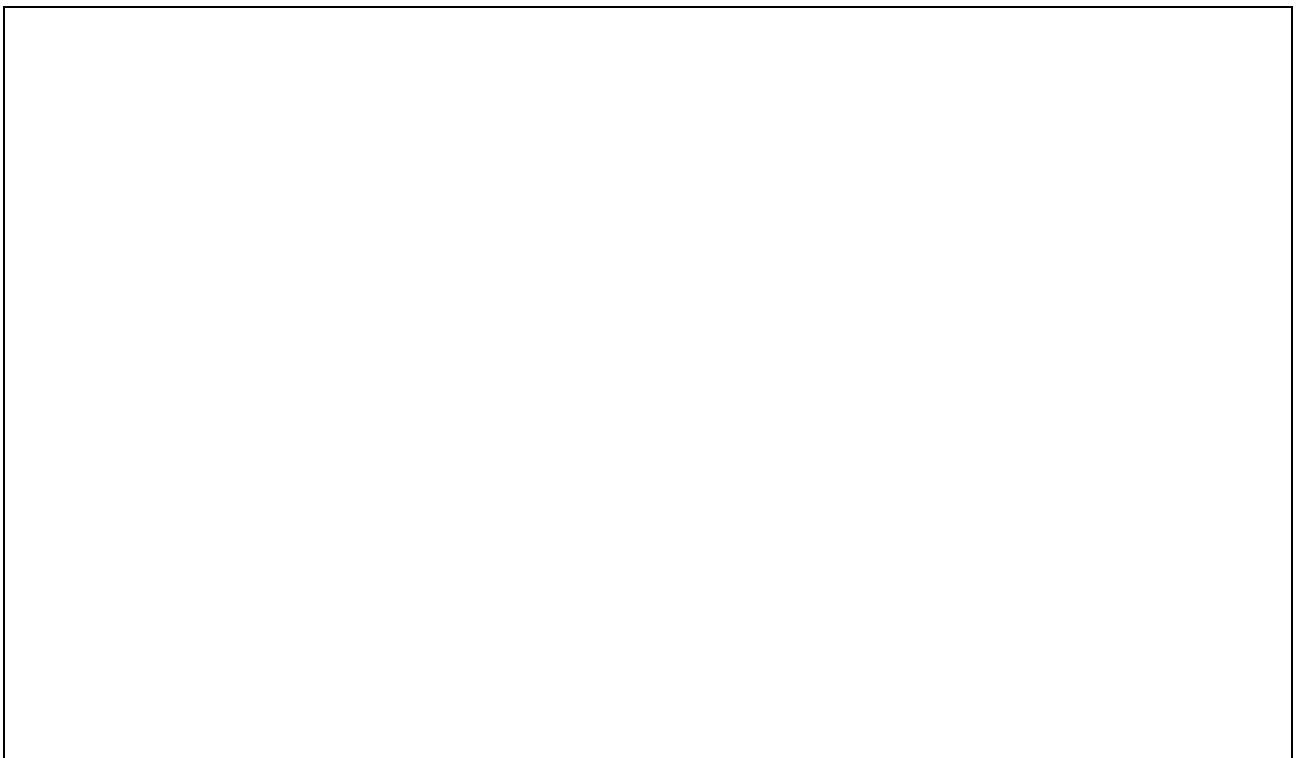
2. a. Estimate the size of one of the books that is visible in street library 1.

(1 mark)

b. Use your estimation to determine and add dimensions to your drawings of street library 1.

Show all sketching, marking and working out in the box shown below.

(3 marks)



3. Draw an exploded view of street library 5.

(3 marks)



4. Many street libraries are registered online at Street Library Australia.

a. Use the online register to describe the precise location of street library 6 which is in the NSW suburb of Crows Nest. (1 mark)

b. How far is this street library from your school:

i. in a straight line? Explain how you determined the distance. (2 marks)

ii. by road? Explain how you determined the distance.

(2 marks)

c. Provide the image and location of the street library closest to your home.

(2 mark)

Image (Attach image)	Location
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5. Street library 7 is located at the entrance to the Midson Road Child Care Centre in Epping, NSW.

a. Use an online mapping tool to determine a walking route from street library 7 to the closest railway station. Illustrate the route on a map. (1 mark)



- b.** Write directions for a tourist who is standing at the front of street library 7 and wants to walk to the closest railway station. **(3 marks)**

PART B: Designing a Community Street Library

Design a street library that could be located in front of your school.

- a. Using an online up, such as www.sketchup.com, construct a scaled plan for the library showing all dimensions. Provide a printout or link to your online work. The originality of your work would be verified. **(3 marks)**



- b. Explain why you chose this design. **(2 marks)**

- c. Create a list of materials required for its construction. **(2 marks)**

- d. Create a scaled prototype of your design using freely available cardboard and recycled materials. Clearly specify the scale used.

Submit your constructed street library along with this paperwork.

(15 marks)

End of assessment task



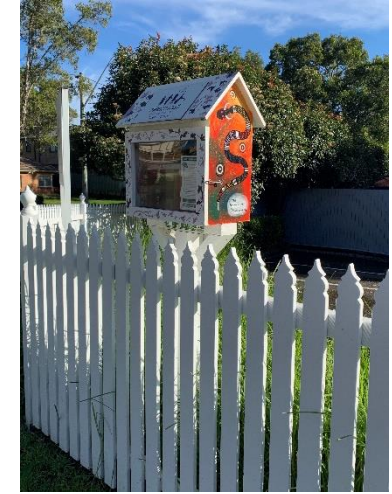
Street library 1



Street library 3



Street library 5



Street library 7



Street library 2



Street library 4



Street library 6



Street library 8

Marking Guidelines

PART A: Some Street Libraries in NSW (21 marks)

1. Draw Views of Street Library 1 (3 marks)

- **Top View (1 mark):**
 - **1:** Accurate and neat representation of the top view.
 - **0:** Incomplete or inaccurate drawing.
 - **Front View (1 mark):**
 - **1:** Accurate and neat representation of the front view.
 - **0:** Incomplete or inaccurate drawing.
 - **Side View (1 mark):**
 - **1:** Accurate and neat representation of the side view.
 - **0:** Incomplete or inaccurate drawing.
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2. Estimating dimensions (4 marks)

a. Estimate the size of a book (1 mark):

- **1:** Reasonable and logical estimate provided.
- **0:** No estimate or illogical value given.

b. Add dimensions to drawings (3 marks):

- **3:** Accurate dimensions added with clear sketching and thorough working out.
 - **2:** Mostly accurate dimensions with some minor errors in calculations or sketching.
 - **1:** Basic attempt made with significant inaccuracies or incomplete working.
 - **0:** No dimensions or working provided.
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3. Exploded View of Street Library 5 (3 marks)

- **3:** Highly accurate and detailed exploded view with clear representation.
 - **2:** Mostly accurate drawing with minor omissions or errors.
 - **1:** Basic attempt with significant inaccuracies or missing details.
 - **0:** No attempt or entirely incorrect drawing.
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4. Online Register and Location Analysis (7 marks)

a. Precise location of Street “Library 6” (1 mark):

- **1:** Accurate location provided using the online register.
- **0:** Incorrect or missing location.

b. Distance to Street Library 6:

i. Straight-line distance (2 marks):

- **2:** Accurate distance with a clear explanation of the method used.
- **1:** Distance provided with limited explanation or minor inaccuracies.
- **0:** Incorrect distance or no explanation provided.

ii. By road distance (2 marks):

- **2:** Accurate distance with a clear explanation of the method used.
- **1:** Distance provided with limited explanation or minor inaccuracies.
- **0:** Incorrect distance or no explanation provided.

c. Image and location of the nearest street library (2 marks):

- **2:** Accurate image and location provided.
 - **1:** Partial information provided or minor inaccuracies.
 - **0:** No image or location provided.
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5. Mapping and Directions (4 marks)

a. Walking route map (1 mark):

- **1:** Accurate and clearly illustrated map.
- **0:** No map or incorrect illustration.

b. Directions for a tourist (3 marks):

- **3:** Clear, accurate, and detailed directions using appropriate language (e.g., left, right, street names).
- **2:** Mostly clear directions with minor omissions or inaccuracies.
- **1:** Basic attempt with significant errors or omissions.
- **0:** No directions provided.

PART B: Designing a Community Street Library (22 marks)

a. Sketch a Scaled Plan (3 marks):

- **3:** Detailed and accurate scaled plan created using online tools with proper dimensions.
- **2:** Mostly accurate plan with minor errors in scaling or dimensions.
- **1:** Basic attempt with significant inaccuracies or incomplete work.
- **0:** No plan provided.

b. Explain Design Choice (2 marks):

- **2:** Clear and well-justified explanation for the design, including functional and aesthetic considerations.
- **1:** Partial or vague explanation with limited justification.
- **0:** No explanation provided.

c. List of Materials (2 marks):

- **2:** Comprehensive and accurate list of materials.
- **1:** Partial or incomplete list of materials.
- **0:** No materials listed.

d. Construct a Prototype (15 marks)

1. Use of Materials (3 marks)

- **3:** Recycled and freely available materials are used creatively and effectively in constructing the prototype.
- **2:** Materials are used but show limited creativity or effectiveness.
- **1:** Materials used meet basic requirements but lack thoughtful integration.
- **0:** Materials do not align with the task requirements.

2. Scale Specification (3 marks)

- **3:** The scale is clearly specified, consistently accurate, and applied throughout the prototype.
- **2:** The scale is specified but contains minor inaccuracies or inconsistencies.
- **1:** The scale is vaguely specified or applied inconsistently.

- **0:** No scale is specified or applied.

3. Accuracy of Prototype (4 marks)

- **4:** The prototype is meticulously constructed, matches the scaled dimensions, and aligns perfectly with the design plan.
- **3:** The prototype is well-constructed with minor discrepancies in dimensions or alignment.
- **2:** The prototype shows moderate alignment with the design plan, but has noticeable inaccuracies.
- **1:** The prototype is incomplete or significantly inaccurate.
- **0:** The prototype is not constructed.

4. Design and Functionality (3 marks)

- **3:** The prototype demonstrates a thoughtful, functional, and creative design suitable for a street library.
- **2:** The prototype has a practical design with limited creativity or functionality.
- **1:** The prototype shows basic design efforts but lacks functionality or thoughtfulness.
- **0:** The prototype lacks design and functionality.

5. Presentation and Submission (2 marks)

- **2:** The prototype is neatly presented and submitted on time with all required paperwork.
- **1:** The prototype is submitted but lacks neatness or some required paperwork.
- **0:** The prototype is poorly presented or submitted late.