

Assessment Task

- Written



Student Name			Student Number	
Unit Code/s & Name/s	ETENCY005 Identify common angles and draw 2D and 3D shapes			
Assessment Type	☐ Case Study ☒ Assignment ☐ Project ☐ Other (specify)			
Assessment Name	AT1	Assessment Task No.	1	
Assessment Due Date		Date submitted		
Assessor Name				
Student Declaration: I declare that this assessment is my own work. Any ideas and comments made by other people have been acknowledged as references. I understand that if this statement is found to be false, it will be regarded as misconduct and will be subject to disciplinary action as outlined in the TAFE Queensland Student Rules. I understand that by emailing or submitting this assessment electronically, I agree to this Declaration in lieu of a written signature.				
Student Signature			Date	
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Instructions to Student	General Instructions: • Read all the instructions and questions carefully. • You have two attempts at completing this assessment successfully. • Make a note of anything that you don't understand and ask your teacher for help You are asked to complete all questions from Task 1 Part A,B,C,D,E. Answer all parts and questions within each task. All questions must be attempted. All working out must be shown to be successful. Some questions ask you to approximate or estimate – do not use a calculator for those questions. For all other questions you may use a calculator. Use black, blue pen and use pencils for drawings. Ensure all your answers have units (where applicable). Materials to be supplied: Assessment paper Time Allowed: 3 hours Assessment Criteria: To achieve a satisfactory result, your assessor will be looking for your ability to demonstrate the following key skills/tasks/knowledge to an acceptable industry standard. • Steps, processes and techniques for performing calculations. • Mathematical representation, symbols, terminology to describe processes. Number of Attempts: You will receive up to two (2) attempts at this assessment task. Should your 1st attempt be unsatisfactory (U), your teacher will provide feedback and discuss the relevant sections / questions with you and will arrange a due date for the submission of your 2nd attempt. If your 2nd submission is unsatisfactory (U), or you fail to submit a 2nd attempt, you will receive an overall unsatisfactory result for this assessment task. Only one re-assessment attempt may be granted for each assessment task. For more information, refer to the Student Rules.
Submission details	Insert your details on page 1 and sign the Student Declaration. Include this template with your submission. All materials used for planning or drafting must be submitted along with your assessment paper.
Instructions for the Assessor	This is an assessment which contains one task: Task 1 Must be conducted after the students fully completed the workbook and can be completed in the class and/or home. Students can use calculators, text books, workbooks to complete the task. A work health and safety check of the assessment environment is to be conducted prior to the assessment and any hazards will be addressed appropriately.

Note to Student

An overview of all Assessment Tasks relevant to this unit is located in the Unit Study Guide.

**Remember to
Show All Working**

Task 1

Part A Planning a garden

You are part of a landscaping team which is designing a new garden. To plan the garden you will need the following:

- 1 sheet of grid paper (page 6) – each box is 5mm
- pencil
- paper
- eraser
- protractor.

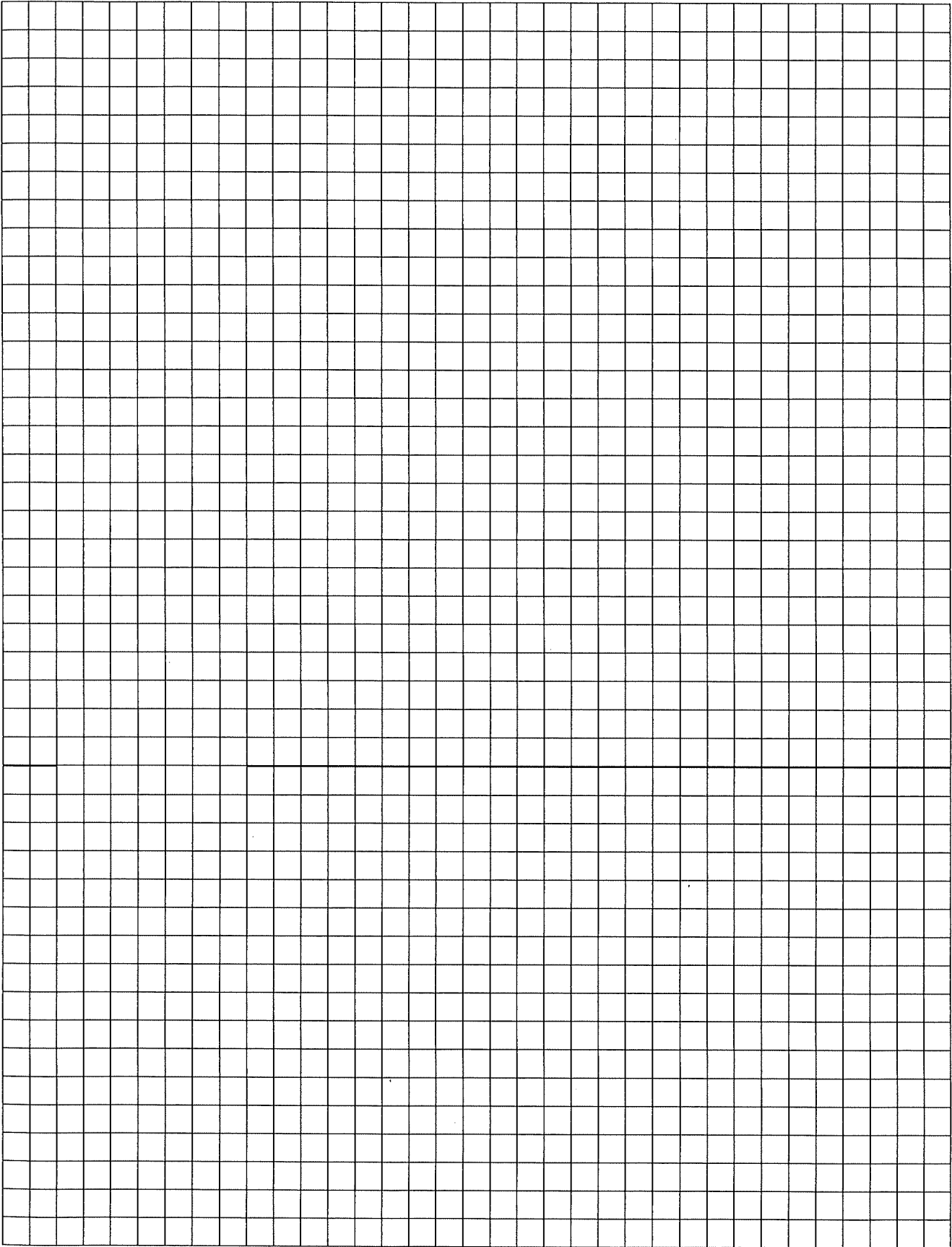
1. Draw the garden plan using the measurements in the table below.



- Use the grid paper to plan the garden.
One box of the grid paper is equal to 500mm 1 box = 500mm.
- Place the grid paper in the portrait position.
- Mark north on the top of the page.

Garden feature	Dimensions
Raised garden bed A and B	8000mm x 2000mmx500mm
Raised garden bed C	4000mm x 2000mmx500mm
Raised garden D - triangle	2 Sides 1500mm height 500mm
Raised garden E - triangle	2 Sides 1500mm height 500mm
Raised garden F - triangle	2 Sides 1500mm height 500mm
Compost bin	1000mmx1000mmx1000mm
Water feature base	Diameter = 1000mm Height = 500mm
Water feature – fountain ball	Diameter =500mm
Garden shed	1500mmx1500mmx1800mm
Screening wall	3500mmx3000mmx1800mm

2. The garden is a rectangular shape 16m x 10m.
 - a) Draw the outline of the garden using the scale 1 box = 500mm.
 - b) Mark all right angles with this symbol. 
 - c) A and B raised gardens are opposite each other on the western and eastern sides of the garden. Start them 4m from the northern side of the garden.
 - d) Raised garden C is centred along the northern side of the garden.
 - e) Raised garden D is in the northwest corner.
 - f) Raised garden E is in the northeast corner.
 - g) Raised garden F is in the southeast corner.
 - h) The garden shed is in the southwest corner of the garden.
 - i) The compost bin is 1 m to the east of the garden shed.
3. Draw 2 diagonal lines across the plan. The centre of the water feature is to be placed where the two lines cross (intersect).
4. The screening wall starts 1m from the western side of the garden and is 1.5m north of the garden shed. West to east wall it is 3500mm long. South to north wall is 3000mm long.
5. Tick all the shapes that are parallelograms. Briefly explain why you think these shapes are parallelograms.



Part B Garden shapes and angles

1. In the plan, name the shapes and properties of the following features.

Garden features	Shape name	Number of angles	Number of sides	Number of surfaces
gardens A, B and C				
gardens D, E and F				
garden shed				
compost bin				
water feature base				

2. Locate all sides of garden beds that are parallel to the northern side of the garden. Use the "»" symbol to label them.

3. Are the sides of the triangular gardens equal in length?

4. What is the name of this type of triangle?

5. Estimate the number of degrees in one inside angle of the triangular garden beds.

6. Check the number of degrees of this angle.

7. What is the total of the inside angles of each triangle?

8. Estimate the number of degrees in the angle where the screen walls meet.

9. How many degrees are there in the angle where the screen walls meet?

a) 360°

b) 180°

c) 90°

d) 45°

10. Estimate the number of degrees in the water feature base.

11. Check the number of degrees in the water feature base.

12. Estimate the number of degrees in the angle with the tick.

13. Check the number of degrees in the angle with the tick.

a) 360°

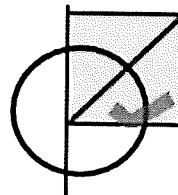
b) 180°

c) 90°

d) 45°

14. Circle the screening wall that is 3500mm long. Estimate the number of degrees in this shape.

15. How many degrees are in the line in your plan?



Part C Constructing garden model

1. Use the previous plan in Part A to construct a 3D model of the garden as a display for the owners.
2. Draw a plan showing the 3D shapes of each garden feature. Label each shape.
3. Use the materials provided by your assessor to complete the construction e.g. blocks, light weight cardboard/paper or modelling clay.
4. Use 3D templates/nets to build the model. You can download these from the internet e.g. <http://www.senteacher.org/worksheet/12/NetsPolyhedra.html>
5. The water feature has four sections –
 - a) base with a diameter of 1000mm –the base is a reservoir for the water and the stones placed in the base to conceal the pond liner and pump
 - b) ball diameter of 600mm – conceals the water tubing and releases the water to flow evenly over the feature

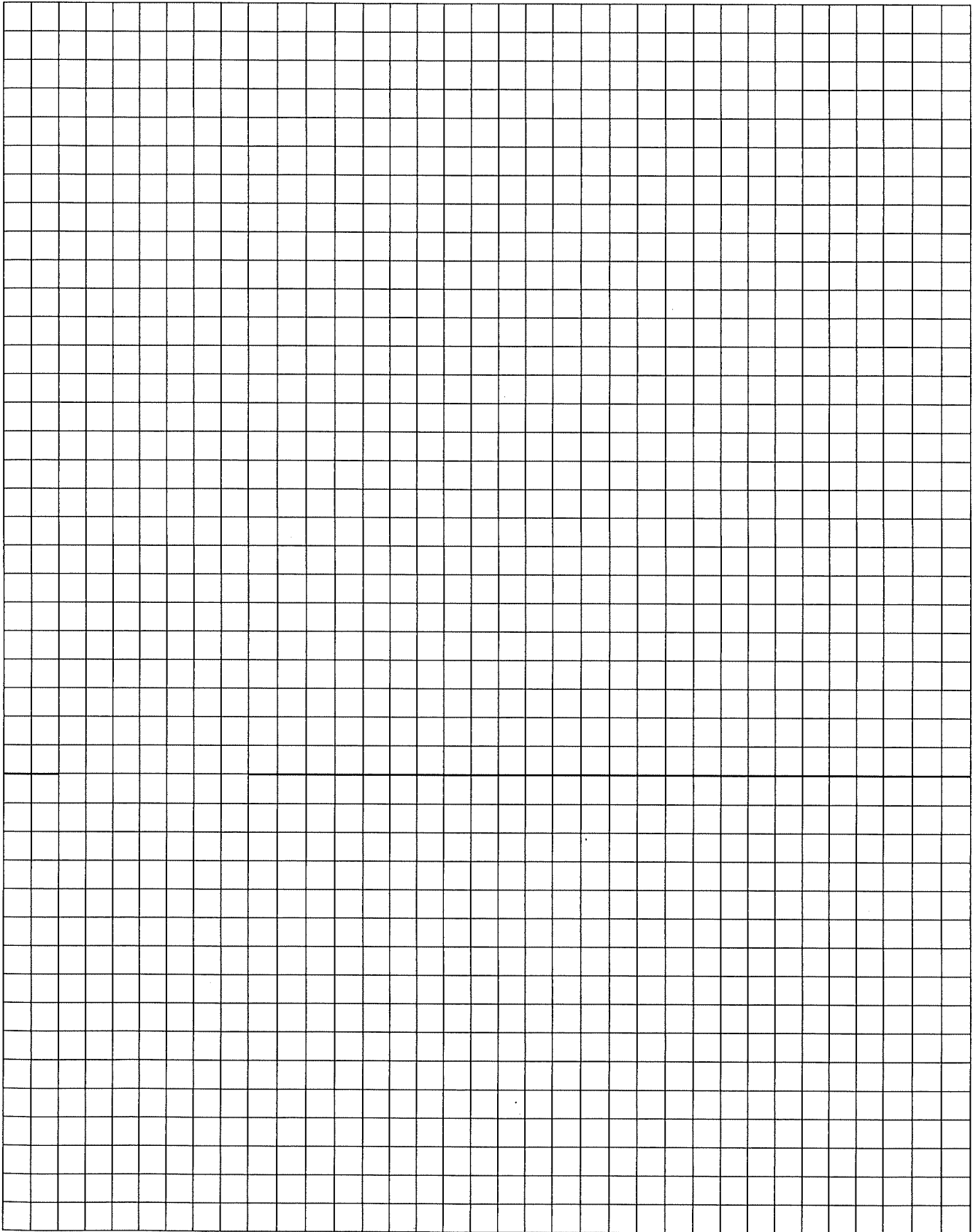
- c) cone shaped roof – diameter is the same as the base
- d) round posts attached to the base support the roof.

6. In the model, what 3D shapes are the following?

- a) gardens A, B and C.....
- b) garden shed
- c) compost bin
- d) gardens D, E and F
- e) water feature base
- f) fountain ball
- g) fountain roof posts

7. Complete the table below

Shape	Number of faces	Number of edges	Number of corners (vertices)	Number of angles (base)	Degrees of angles (base)
Garden shed					
Garden A					
Garden D					
Water feature					



Part D Planning a kite template

Kites were first developed in China and have been used for hundreds of years. These constructions come in different shapes and sizes. You will be constructing different shaped kites to test the effectiveness of different styles.

For this activity you will need the following:

- pencils
- eraser
- ruler.
- grid paper or white paper (page 13)

You may draw your kite plans using the **grid paper** on **page 12** or on **white paper** on **page 13**.

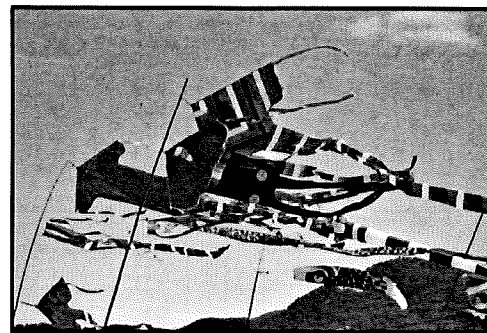


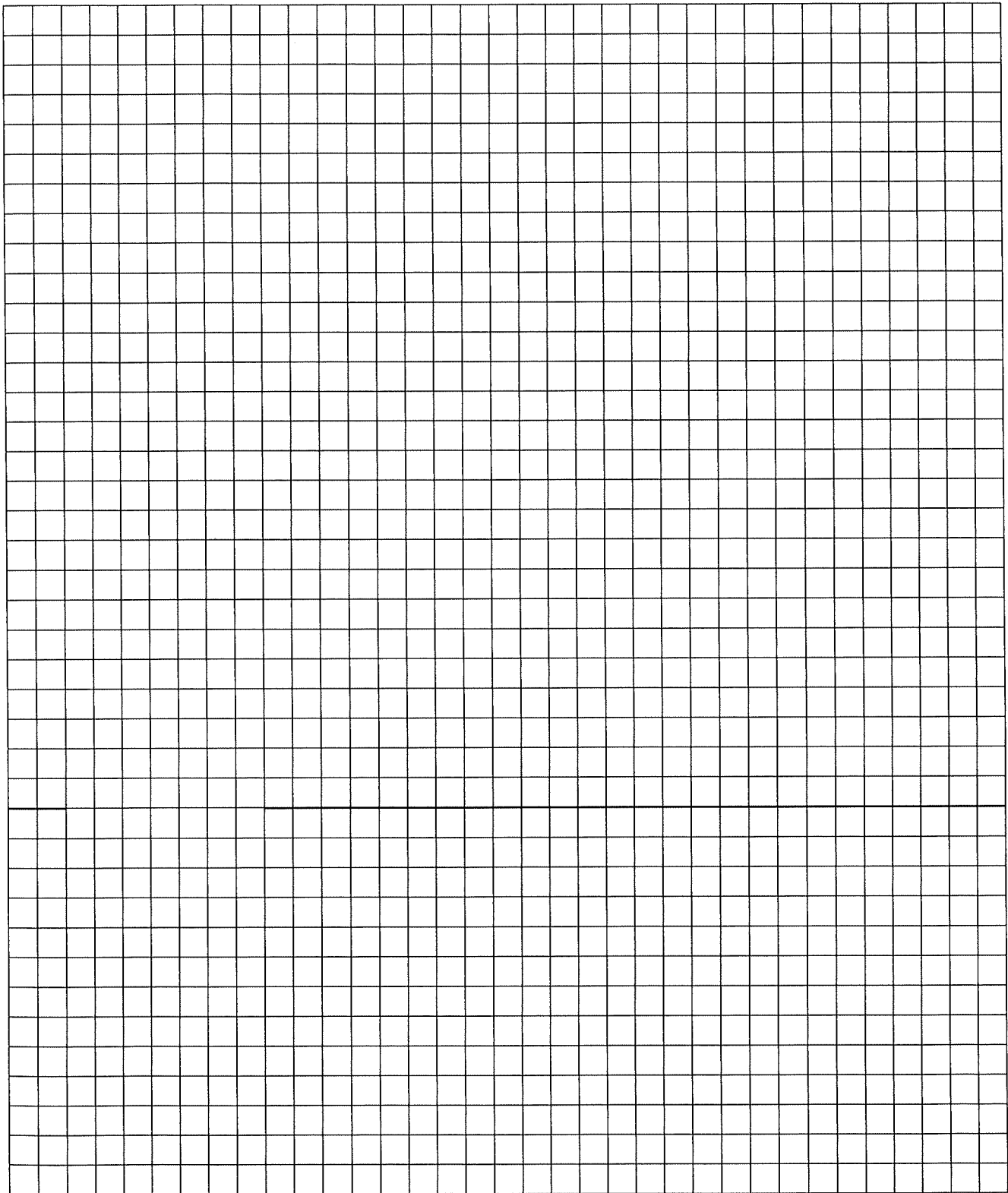
Figure 1 Purchased from
www.123rf.com

Grid Paper

1. Each box in the grid is 1cm².
2. The kite template must fit in a box with a base of 85cm x 65cm.
3. Use 1 box = 10cm/10cm to draw the plans for 3 kites.
4. The shapes are:
 - a) rhombus
 - b) trapezium
 - c) triangle.

Label your plans.

Use letters or numbers to label each corner of your shape.



You may draw the shapes here:

Rhombus.

Trapezium

Triangle.

5. Estimate the total of inside angles for each shape.

Rhombus totaldegrees

Trapezium total.....degrees

Triangle total.....degrees

6. Use a protractor to measure the angles. Record them in the table below.

7. Record the properties of each shape in the table below.

Properties	Rhombus				Trapezium				Triangle		
Number of sides											
Corners (vertices)											
Number of inside angles											
Estimate degree of each inside angle											
Measure the Degrees of each inside angle											
Total degrees of inside angles											
Parallel sides											

a) Explain to your assessor the way you estimated the degrees for each inside angle.

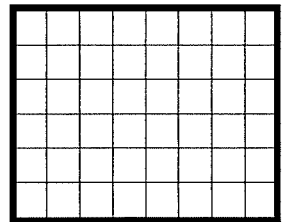
Part E Draw a kite template

Select one plan from Part C to use as the pattern to make a kite template e.g. rhombus plan. To develop the template you will need the following materials –

- pencil/s
 - 1x A4 paper and Page 48, 49 from your workbook **or** 4 x A3 pieces of paper / butcher's paper / brown paper (80cm x 60cm)
 - eraser
 - ruler
 - protractor
 - sticky-tape/glue.
1. Use the A4 page to draw one shape from Part C (rhombus, trapezium, triangle) and **go to step 6**

or

join the 4 x A3 sheets or other pieces of paper together (glue/sticky-tape) to make a drawing area of 80cm x 60cm and **follow the steps from 2 to 9.**



2. Check the interior angles are each 90° . 60cm
3. Mark 10cm lengths along all sides of the paper.
4. Draw lines between the opposite points along the lengths and widths to make a grid. 80cm
5. Check all the angles of the grid are right angles.
6. Record in the table below the length of each side of the shape.

Side	Length of side (cm)

7. A kite has a tail. You will be testing different shapes for the tails. Draw the 3D nets of the following shapes.(you may find them on the Internet)

a) triangular pyramid

b) sphere

c) cylinder.

8. Record the properties of that 3D shape (triangular pyramid) in the table below.

Properties	Pyramid		
Number of faces			
Number of edges			
Corners (vertices)			
Number of angles of the base			
Estimate the degrees of each angle of the base.			
Measure the degrees of each angle of the base.			
Parallel sides	Yes	No	

9. Use 3D nets to construct/draw the following shapes:

a) pyramid (square based)

b) sphere

c) cylinder.

Draw the shapes here:

a) Pyramid (square based)

b) Sphere

c) Cylinder

