MATHS STANDARD YEAR 11 - MODULE 2 - LESSON 6

Area of Sectors, Annuli, and Composite Shapes

Use this worksheet after reading the lesson to practise the key ideas and prove you can meet the success criteria.

Name _____

Date _____

Class _____

1. Key Ideas

Three new area formulas — all built on the circle. Master the sector, the ring, and the triangle with an included angle.

- The sector area formula $A = (\theta/360) \times \pi r^2$
- Why sector area is a fraction of πr^2 — same fraction as arc length uses on circumference

2. Success Criteria

By the end, you should be able to:

- The sector area formula $A = (\theta/360) \times \pi r^2$
- The annulus area formula $A = \pi(R^2 - r^2)$
- The sine area rule $A = \tfrac{1}{2}ab\sin C$

3. Key Terms

Key idea
The central concept from Area of Sectors, Annuli, and Composite Shapes.

Evidence
Information, observations or calculations used to support an answer.

Explain
Give a reasoned answer that links cause and effect.

Apply
Use a learned idea in a new example, problem or scenario.

4. Activity: Build the Lesson Map

Use the lesson to complete the table. Keep answers brief but specific.

Prompt	Your answer
Main concept	
Important example	
Common mistake to avoid	
How this links to the next lesson	

5. Short Answer Questions

1. Explain this lesson goal in your own words: "The sector area formula $A = (\theta/360) \times \pi r^2$". Use one specific example from the lesson.

BAND 3 2 MARKS

2. Apply this idea to a new example: "The annulus area formula $A = \pi(R^2 - r^2)$". Show your reasoning clearly.

BAND 4 3 MARKS

3. Analyse why this idea matters for understanding Area of Sectors, Annuli, and Composite Shapes: "The sine area rule $A = \tfrac{1}{2}ab\sin C$".

BAND 5 4 MARKS

6. Extend: Apply the Idea

BAND 5/6 5 MARKS

A student gives a memorised answer about Area of Sectors, Annuli, and Composite Shapes but does not use evidence or reasoning.

Improve the answer by writing a stronger response that uses accurate terminology, a relevant example and a clear explanation.

7. Multiple Choice

1. What is the best first step when answering a question about Area of Sectors, Annuli, and Composite Shapes?

☐ A. Identify the key concept being tested

☐ B. Write every fact from memory

☐ C. Ignore the command word

☐ D. Skip examples and evidence

2. Which answer would show stronger understanding of Area of Sectors, Annuli, and Composite Shapes?

☐ A. An answer with accurate terms and reasoning

☐ B. A copied definition only

☐ C. A single-word response

☐ D. An answer with no example

3. What should you do if a question asks you to explain?

☐ A. Link the idea to a reason or cause

☐ B. List unrelated facts

☐ C. Only draw a diagram

☐ D. Write the shortest possible answer

8. Success Criteria Proof

Finish with evidence that you can do each success criterion.

SUCCESS CRITERION 1

Prove that you can: The sector area formula $A = (\theta/360) \times \pi r^2$

BAND 3 2 MARKS

SUCCESS CRITERION 2

Prove that you can: The annulus area formula $A = \pi(R^2 - r^2)$

BAND 4 3 MARKS

SUCCESS CRITERION 3

Prove that you can: The sine area rule $A = \tfrac{1}{2}ab\sin C$

BAND 5 4 MARKS

One thing I still need help with: