

D03

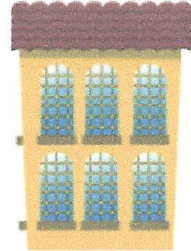
40 points-
10 points each**Geometry Module 9 DBA**

Be sure to show and explain all work.

Part 1 - Application

A semi-circle window can be used above a doorway or as an accent window in a room to allow more light in large rooms. The semi-circle window in your home theater room lets too much light in so that the movie experience is not optimal at any time of the day.

You research and find there are "room darkening" blinds and shades for semi-circle windows. You can't quite reach the semi-circle window to measure but you are able to measure the window beneath. The height of the rectangle window below is 85 *in* and the width of the window below the semi-circle is 50 *in*. What is the area of the semi-circle window so that you can start your search for the correct size? Be sure to show and explain your work.

**Part 2 - Find the error(s) and solve the problem correctly.**

Find the equation of the circle. What is the center and radius of the circle?
Be sure to show all work and explain your answer.

$$x^2 + y^2 + 8x - 2y - 13 = 0$$

$$x^2 + 8x + y^2 - 2y = 13$$

$$x^2 + 8x + 8 + y^2 - 2y - 1 = 13 + 8 - 1$$

$$(x + 4)^2 + (y - 1)^2 = 20$$

$$\text{Center } (-4, 1) \quad r = 20$$

Part 3 - Discussion Question

A student claims that when you double the radius of a sector while keeping the measure of the central angle constant, then you double the area of the sector. Do you agree or disagree? Be sure to show and explain your answer using mathematical language.

Part 4 - Reflection

Your response must be at least three paragraphs (1 paragraph per question).

This question required:

1. Over the course of this module, what concept did you find the most challenging? What did you do to clarify the concepts in this module to further your learning? How did I move through roadblocks or challenges?

Choose 2 of the following questions:

2. What new information have you learned from this module? What surprised you about what you learned? What knowledge from your past courses did you use in this module?
3. Briefly explain a concept in this module and give at least one real world example that demonstrates the concept that you have selected. Share an original example that you have written and solved. Be sure it is not given in the course content or in the application question above.
4. What would you do differently in the next module that you didn't do in this module?
5. Describe a specific LSS resource in addition to the course content that you used in this module and how it helped you learn the concepts.

Rubric

	Not applicable	Needs Improvement	Proficient	Exemplary
	(0 points)	(up to 5.5 points)	(up to 8.5 points)	(up to 10 points)
Part 1 Application	Solution is incorrect and the student did not show or explain work or work the problem incorrectly.	Solution is incorrect; however the student showed their work and made an error(s) in calculations. OR Solution is correct but there is no work shown or explained	Solution is correct, however there is little work shown for the problem.	Solution is correct. All work shown and explained using mathematical language from this module.
Part 2 Find the Error	Errors not found or explained. Error in attempt to rework the problem.	Some or no errors found. Problem reworked out partially.	All or most errors found and explained. Problem not reworked correctly.	All errors found and explained. Problem worked out correctly with all work shown
Part 3 Discussion Question	Discussion question not answered or discussed without correct conclusion	Errors in discussion. Little to no mathematical language included in the discussion	Discussion has few errors. Little to no mathematical language included in the discussion	Discussion is correct using mathematical language included in this module to answer the discussion question.
Part 4 Reflection	Reflection not answered.	Reflection attempted but response is less than 3 paragraphs. No specific examples given.	3 paragraphs are written but less than 2 sentences and/or meaningful discussion is missing for a paragraph. Little to no specific examples given.	3 paragraphs of at least 3 meaningful sentences each answering each question reflecting on this module. Specific examples are given to justify the reflection questions.