

Area Exploration – Scoring Sheet

Student Name: _____

Place a score (1-4) in each row corresponding to the student's college readiness level.

Exceeding College Ready (4): Substantially exceeds the performance expectations**College Ready (3):** Shows proficiency in all of the performance expectations**Approaching College Ready (2):** Meets only some of the performance expectations**Initiating College Ready (1):** Does not yet meet the performance expectations

KEY COGNITIVE SKILLS	Student's Self-Assessment	Instructor's Score
Intellectual Curiosity (engages in scholarly inquiry and dialogue; accepts constructive criticism and revises personal views when valid evidence warrants)		
Reasoning (considers arguments and conclusions of self and others; constructs well-reasoned arguments to explain phenomena, validate conjectures, or support positions; supports or modifies claims based on the results of an inquiry)		
Academic Behaviors (self-monitors learning needs and seeks assistance when needed; strives for accuracy and precision; perseveres to complete and master tasks)		
Work Habits (works collaboratively)		
Academic Integrity (evaluates sources for quality of content, validity, credibility, and relevance)		
FOUNDATIONAL SKILLS	Student's Self-Assessment	Instructor's Score
Writing Across the Curriculum (writes clearly and coherently using standard writing conventions)		
MATHEMATICS STANDARDS	Student's Self-Assessment	Instructor's Score
Numeric Reasoning (performs computations with real and complex numbers)		
Geometric Reasoning (makes connections between geometry and measurement)		
Measurement Reasoning (finds the perimeter and area of two-dimensional figures)		
Problem Solving and Reasoning (analyzes given information; formulates a plan or strategy; determines solutions; justifies solutions)		
Communication and Representation (uses math languages to represent and communicate math concepts in a problem; communicates math ideas, reasoning, solutions, and justifications using precise language)		

See reverse for
comments.

Score	College Readiness Level
39-44	Exceeding College Ready
32-38	College Ready
17-31	Approaching College Ready
0-16	Initiating College Ready

Total Score: _____

Grade: _____

See Scoring Guide for grade
conversion chart.

Area Exploration – Scoring Guide

Note: The letters and numbers of the skills below refer to their designation in the College and Career Readiness Standards.

KEY COGNITIVE SKILLS

A. Intellectual Curiosity

1. Engage in scholarly inquiry and dialogue.

College Ready Description: Student explores ways of estimating the area of a pool with curved sides.

Evidence for Scoring: Student uses a method to estimate the area of a pool with curved sides.

2. Accept constructive criticism and revise personal views when valid evidence warrants.

College Ready Description: Student recognizes errors in own reasoning and revises them accordingly.

Evidence for Scoring: Student revises their own ideas about finding the area of a curved pool based on feedback from their peers.

B. Reasoning

1. Consider arguments and conclusions of self and others.

College Ready Description: Student understands the arguments and conclusions of other students.

Evidence for Scoring: Student provides support for their ideas about finding the area of curved pools and asks for explanation and support for others ideas.

2. Construct well-reasoned arguments to explain phenomena, validate conjectures, or support positions.

College Ready Description: Student constructs and conveys arguments and conclusions.

Evidence for Scoring: Student clearly articulates how they estimated the cost of the pool they designed and how the concept of mathematical limit can help find the area of the pool.

4. Support or modify claims based on the results of an inquiry.

College Ready Description: Student refines methods based on results of explorations.

Evidence for Scoring: Student adjusts method for estimating the area of a pool based on results of initial attempts.

D. Academic Behaviors

1. Self-monitor learning needs and seek assistance when needed.

College Ready Description: Student identifies areas of significant misunderstanding or difficulty and distinguishes these from questions whose solutions are not immediately obvious.

Evidence for Scoring: Student asks informed questions of group members and instructor.

3. Strive for accuracy and precision.

College Ready Description: Student answers questions accurately and precisely.

Evidence for Scoring: Student does not rely on hand waving or statements such as “it’s obvious.”

4. Persevere to complete and master tasks.

College Ready Description: Student shows a clear ability to stay on task and strives to solve difficult problems.

Evidence for Scoring: Student stays engaged in attempting to estimate the area of a curved pool despite initial failures.

E. Work Habits**2. Work collaboratively.**

College Ready Description: Student shows ability to work in a group; this involves comparing ideas, understanding those of others, and offering constructive critiques.

Evidence for Scoring: Student offers and accepts ideas from others about how to find the area of a curved pool.

F. Academic Integrity**2. Evaluate sources for quality of content, validity, credibility, and relevance.**

College Ready Description: Student researches ideas discussed relating to area computation.

Evidence for Scoring: Student seeks out information from peers and other resources when attempting to solve the problem, and thinks critically about the sources of the information.

FOUNDATIONAL SKILLS**B. Writing Across the Curriculum****1. Write clearly and coherently using standard writing conventions.**

College Ready Description: Student writes full and understandable solutions to the problems.

Evidence for Scoring: Student clearly explains how they found the area and cost of the pool they designed and how to use a mathematical limit to find the area.

MATHEMATICS STANDARDS**I. Numeric Reasoning****B.1. Number operations.**

College Ready Description: Student performs computations with real and complex numbers.

Evidence for Scoring: Student computes numbers without a calculator.

III. Geometric Reasoning

C.3. Connections between geometry and algebra.

College Ready Description: Student makes connections between geometry and measurement.

Evidence for Scoring: Student uses area to find the cost of a swimming pool.

IV. Measurement Reasoning

C.1. Measurement involving physical and natural attributes.

College Ready Description: Student finds the perimeter and area of two-dimensional figures.

Evidence for Scoring: Student computes areas of standard geometric figures and understands the idea of integrating to find the area under a parabola.

VIII. Problem Solving and Reasoning

A.1, 2, 3, 4. Mathematical problem solving.

College Ready Description: Student analyzes given information, formulates a plan or strategy, determines a solution, and justifies the solution.

Evidence for Scoring: Student analyzes the information about the given objects and uses that to answer the questions. Student formulates a plan to approach the problems that do not have obvious answers for non-calculus students. Student determines solutions to the problems using the strategies he or she created. Student explains the idea of integration and the relationship between area and the average value of a function.

IX. Communication and Representation

A.2. Language, terms, and symbols of mathematics.

College Ready Description: Student uses mathematical language to represent and communicate the mathematical concepts in a problem.

Evidence for Scoring: Student uses appropriate vocabulary and symbols to communicate his or her solution in his or her report.

C.1, 3. Presentation and representation of mathematical work.

College Ready Description: Student communicates mathematical ideas, reasoning, and their implications using symbols, diagrams, graphs, and words. Student explains, displays, and justifies mathematical ideas and arguments using precise mathematical language in written or oral communications.

Evidence for Scoring: Student uses multiple representations of his or her solution including proper mathematical vocabulary, mathematical symbols, equations, and geometric representations to communicate his or her solution.

Area Exploration – Scoring Instructions

Place a score (1-4) in each row of the scoring sheet corresponding to the student's college readiness level.

Exceeding College Ready (4): Substantially exceeds the performance expectations

College Ready (3): Shows proficiency in all of the performance expectations

Approaching College Ready (2): Meets only some of the performance expectations

Initiating College Ready (1): Does not yet meet the performance expectations

Suggested Grade Conversion:

This chart reflects equal weight given to each skill. As key cognitive skills, foundational skills, and discipline content knowledge are all important elements of college readiness, we recommend this grading approach. However, you may certainly choose to implement different weights to particular scales and assign a grade at your discretion.

Score	Grade		Score	Grade		Score	Grade		Score	Grade
44	100		35	90		26	79		17	70
43	99		34	88		25	78		16	68
42	98		33	86		24	77		15	66
41	97		32	85		23	76		14	64
40	96		31	84		22	75		13	62
39	95		30	83		21	74		12	60
38	94		29	82		20	73			
37	93		28	81		19	72			
36	92		27	80		18	71			