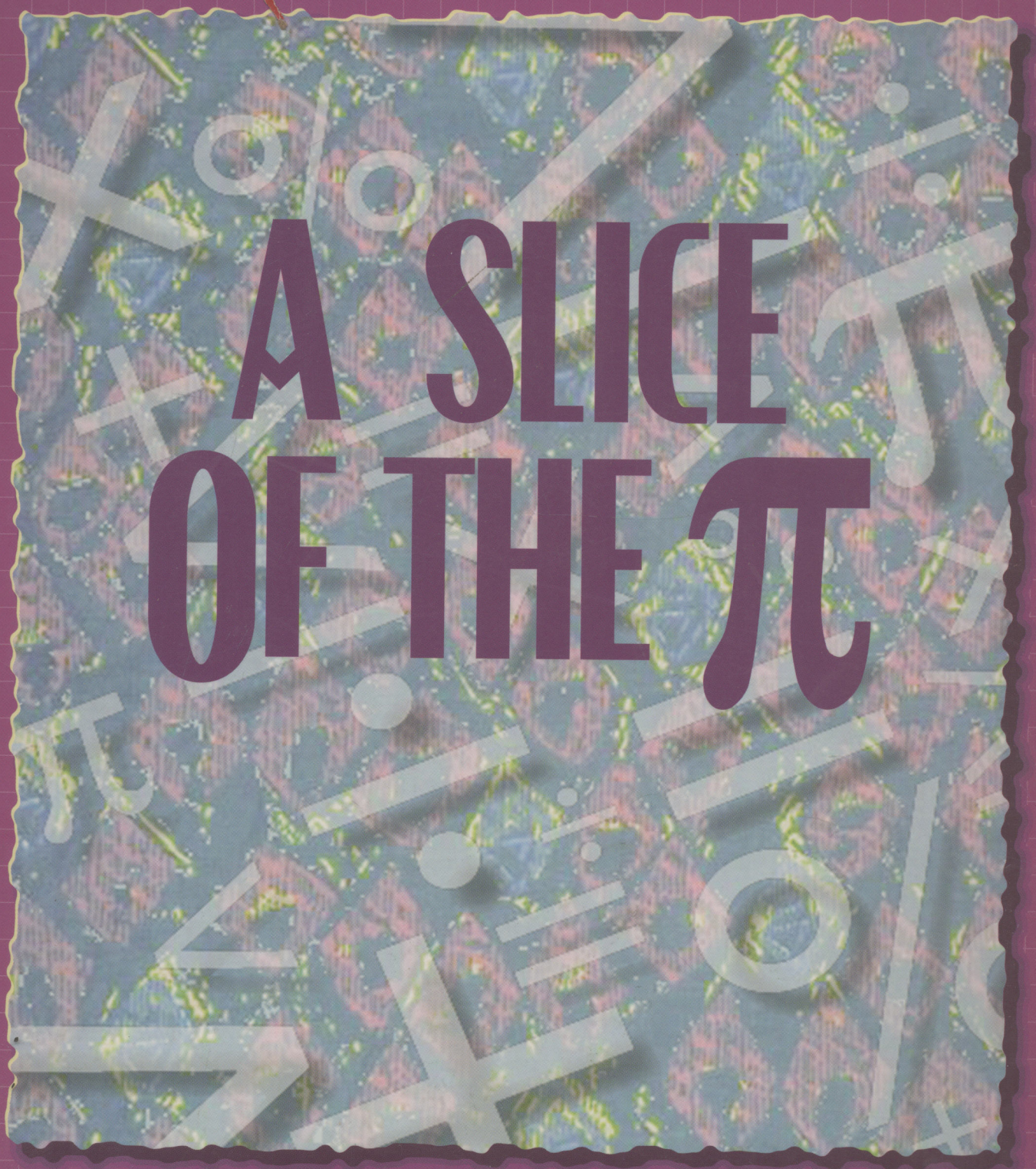
A SLICE OF THE π

WRITE START

WRITING PROMPTS WITH RUBRICS



WRITE START

WRITING PROMPTS WITH RUBRICS

A SLICE OF THE π

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To the Teacher:

This book of mathematics prompts is geared toward the mathematics portfolio. However, several of the entries are very suitable for a writing portfolio entry. Each of these is only a suggestion and students or teachers may see items or areas that may be added or deleted. The courses listed in the Table of Contents are not all-inclusive, and many prompts could be used in additional areas.

The rubrics are also included as a recommendation and may be adapted in any assignment. Most rubrics begin with "writing focus," which is intended to cover aspects such as conveying understanding with clear and precise communication, smooth transitions, and correct grammar.

Mathematics is more than just calculations! It is hoped that this book of prompts will be useful not only as portfolio prompts but also in generating innovative ideas and projects.

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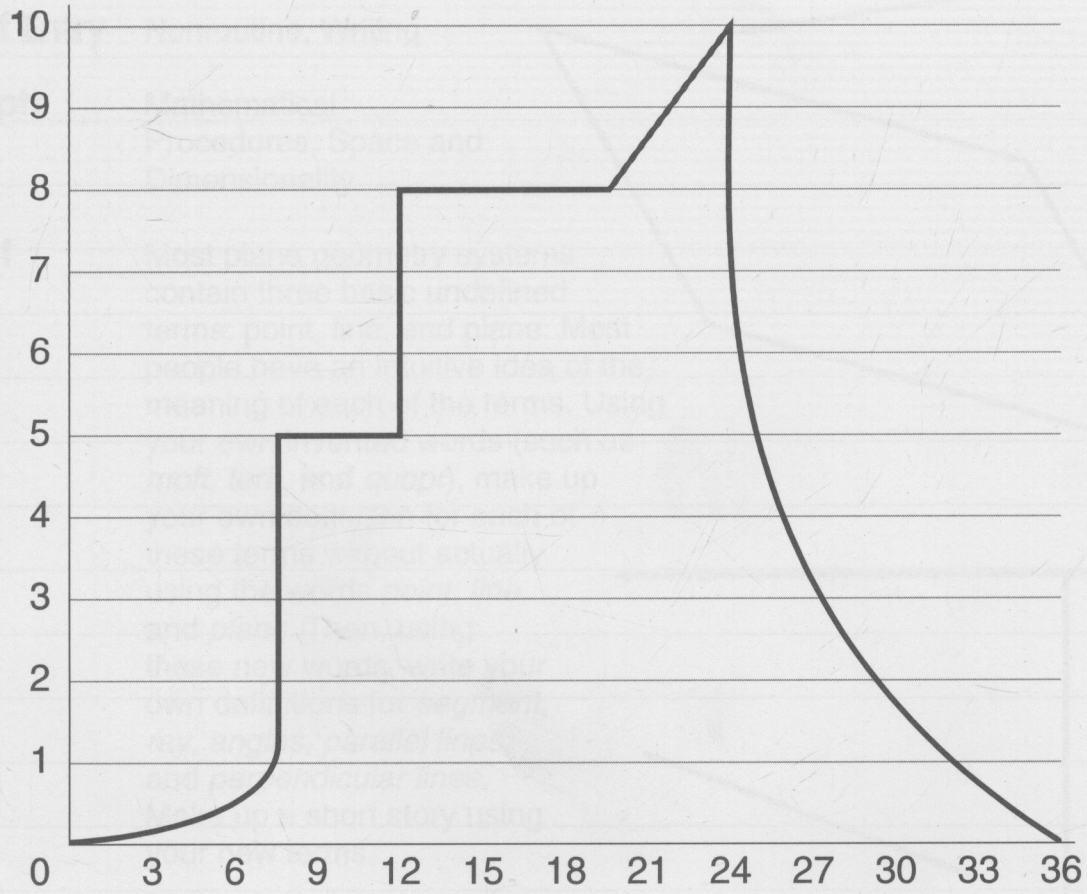
What Does This Mean?



Type of Entry Nonroutine, Writing

Concepts Change, Mathematical Procedures (others possible)

Prompt A graph gives a visual picture of a situation. Using the graph shown above, create a story that will be reflected in the data. You may assign any type of units for the horizontal and vertical axes.

Rubric

Writing focus	10
Graph interpretation	10
Graph use in story	10
Creativity	10
Overall story	10
TOTAL	**50**

Name _____ Date _____

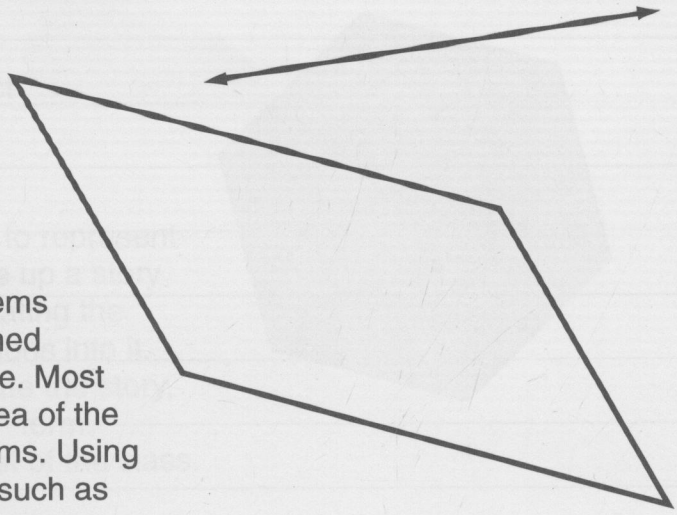
Name _____ Date _____

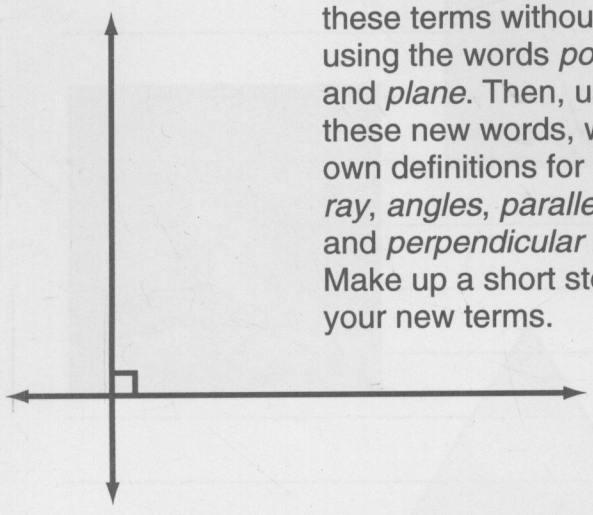
Define the Undefined

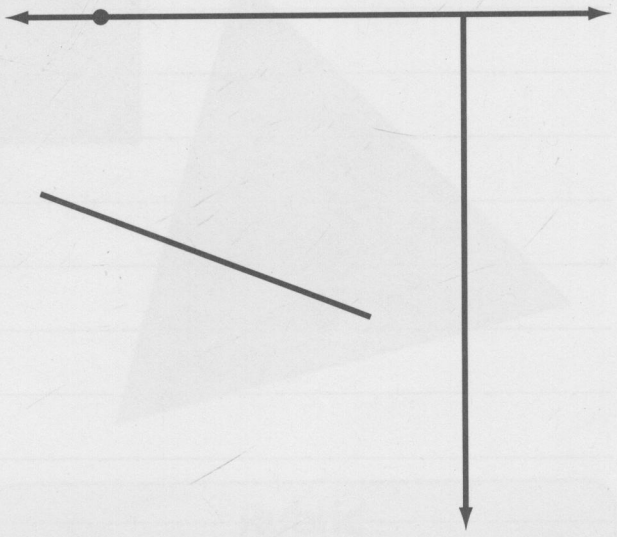
Type of Entry Nonroutine, Writing

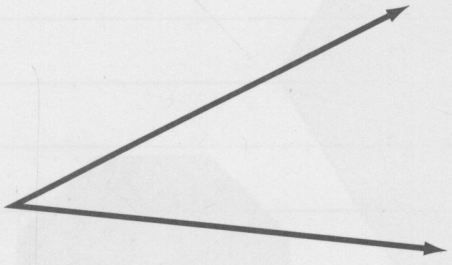
Concepts Mathematical Procedures, Space and Dimensionality

Prompt Most plane geometry systems contain three basic undefined terms: point, line, and plane. Most people have an intuitive idea of the meaning of each of the terms. Using your own invented words (such as *moft*, *terh*, and *quopr*), make up your own definition for each of these terms without actually using the words *point*, *line*, and *plane*. Then, using these new words, write your own definitions for *segment*, *ray*, *angles*, *parallel lines*, and *perpendicular lines*. Make up a short story using your new terms.







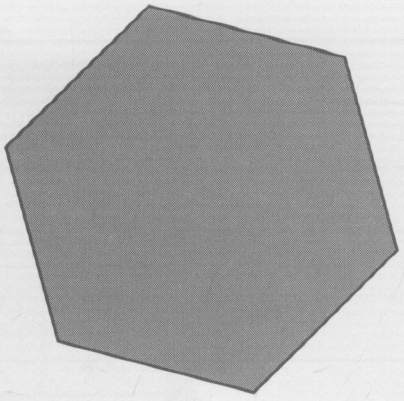


Rubric	
Writing focus	10
Creativity	10
Accuracy of definitions	10
Story	10
Mathematics in story	10
TOTAL	**50**

Name _____ Date _____

Name _____ Date _____

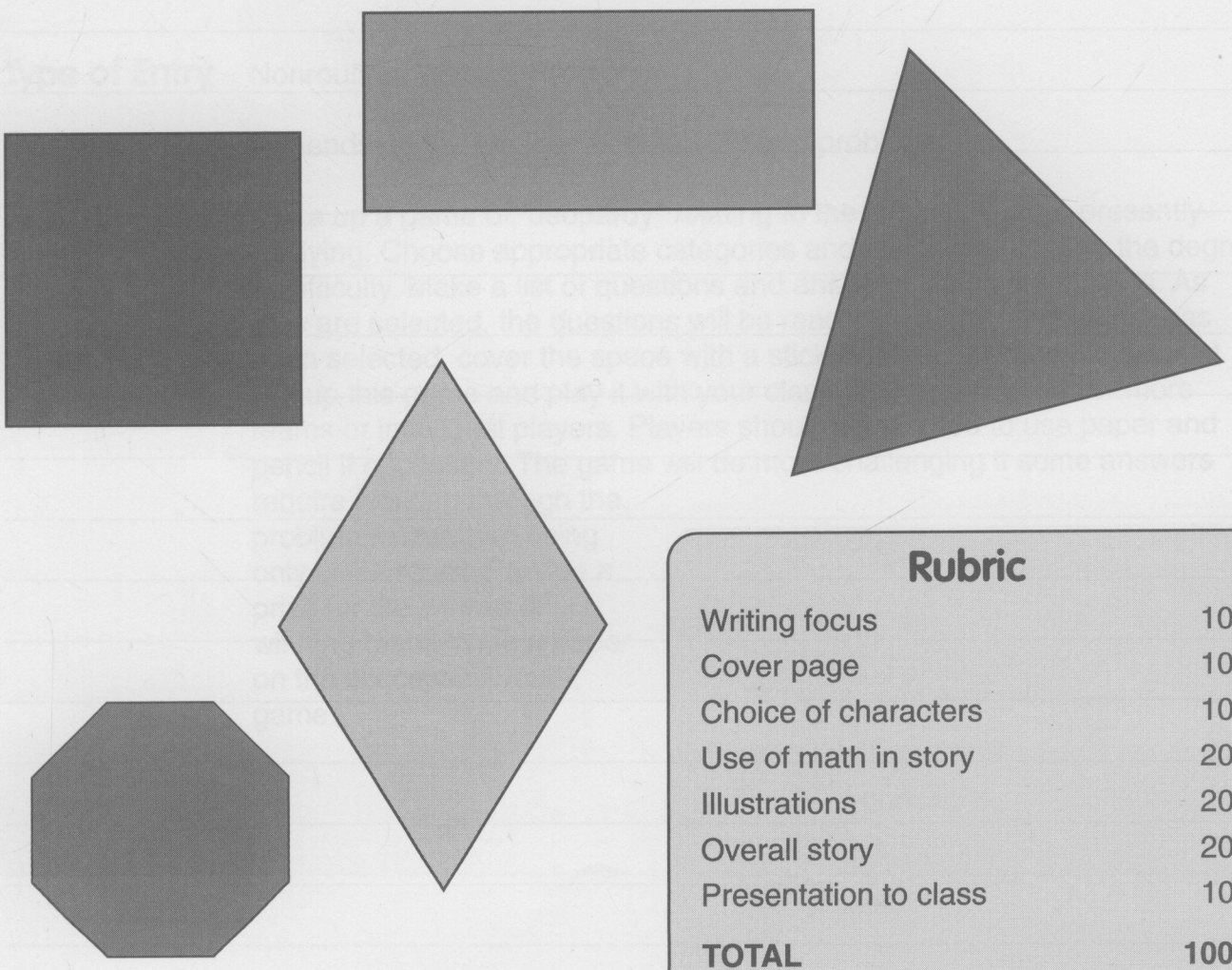
The Polygon Friends



Type of Entry Writing, Nonroutine, Project

Concepts Space and Dimensionality

Prompt Choose different polygons to represent you and your friends. Make up a story about yourselves, incorporating the characteristics of the polygons into it. Make a cover page, illustrate the story, and put it into a "published" form. Present the story to the rest of the class.



Rubric

Writing focus	10
Cover page	10
Choice of characters	10
Use of math in story	20
Illustrations	20
Overall story	20
Presentation to class	10
TOTAL	**100**

Name _____ Date _____

Name _____ Date _____

Jeopardy

graph	equation	variable	polygon	function	limit
100	100	100	100	100	100
200	200	200	200	200	200
300	300	300	300	300	300
400	400	400	400	400	400
500	500	500	500	500	500

Type of Entry Nonroutine, Writing, Project

Concepts Depends on the choice of categories and problems

Prompt Make up a game of "Jeopardy" relating to the subject you are presently studying. Choose appropriate categories and questions, varying the degree of difficulty. Make a list of questions and answers, and a set of rules. As they are selected, the questions will be read aloud. After a category has been selected, cover the space with a stick-on note or erase the amount. Set up this game and play it with your class. You may use two or more teams or individual players. Players should be allowed to use paper and pencil if necessary. The game will be more challenging if some answers require working through the problem rather than using only quick recall. Provide a prize for the winner or winning team. Write a paper on the success of your game.

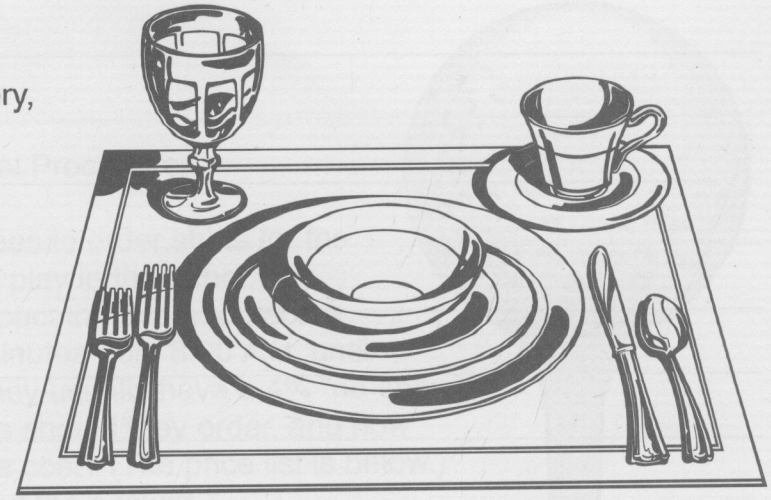
Rubric

Writing focus	10
List of rules	10
Choice of categories	10
Appropriate questions	20
Difficulty of questions	10
Play of game	20
Individual write-up	20
TOTAL	**100**

Name _____ Date _____

Name _____ Date _____

Where Do We Eat?

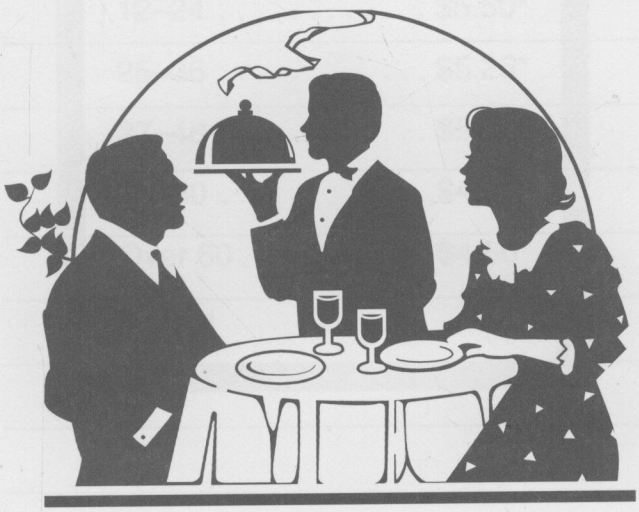


Type of Entry Investigation/Discovery, Application

Tools Newspaper Ads for Grocery Store and Restaurant, Menu from Restaurant

Concepts Number, Data

Prompt How do the prices of restaurant meals compare with meals cooked at home? Make a menu for a favorite dinner. After listing everything for that meal, research prices for the dinner for both a home-prepared meal and a restaurant meal. Consider the advantages and the disadvantages of eating at both places. Write a report on your findings.

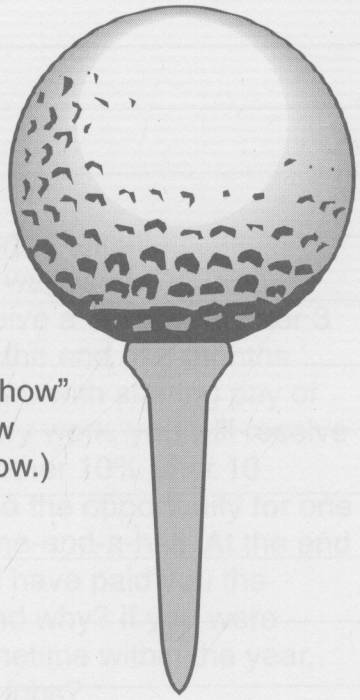


Rubric	
Writing focus	10
Menu	10
Research	10
Mathematics	10
Report	10
TOTAL	**50**

Name _____ Date _____

Name _____ Date _____

Golf Shirts



Type of Entry Application

Concepts Number, Mathematical Procedures

Prompt A local golf shop wishes to order shirts for the members planning to play in the Labor Day tournament. They expect to have a foursome teeing off every 10 minutes from 8:00 A.M. until 1:00 P.M., although they usually have a 4% "no-show" rate. How many shirts should they order, and how much would the shirts cost? (The price list is below.) Explain how you found the answer.

Shirts & More
Price List

12–24	$5.50*
25–36	$5.25*
37–48	$5.00*
49–60	$4.75*
Over 60	$4.50*

*per shirt

Rubric

Writing focus	10
Format of problem	10
Mathematics	10
Explanation of mathematics	10
Conclusion	10
TOTAL	**50**

Name _____ Date _____