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Grade 12  
Consumer Mathematics  
Standards Test

# **Project Scoring Guide**

## **Planning a Tournament**

April 2009

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# **Excerpt from the student's resource package**

## **Welcome to the *Planning a Tournament Project***

### **General Information**

The purpose of the first session is to provide an opportunity for you to

- develop an understanding of the project requirements
- become familiar with the information contained in the *Project Resource Package*
- share ideas related to the project in a brainstorming session
- begin developing your individual project

After the first project session the following conditions apply:

- Two additional classwork periods will be provided.
- Your teacher cannot assist you in developing or revising your project.
- You must submit an individual project that reflects your own work.

## **Guidelines for the *Planning a Tournament* Project**

This project requires you to take the role of a person who is planning a basketball tournament.

**In doing this project the following scenarios and requirements apply:**

1. You are responsible for planning a weekend basketball tournament. A banquet will be held Friday night for all players and coaches, and the tournament games will take place on Saturday and Sunday.
2. Each of the 12 teams will consist of ten players and two coaches. Registration fees from teams entering the tournament cannot exceed \$350 per team.
3. You must provide catered food for the banquet (meals, desserts, and beverages). The cost of this banquet is included in the registration fee. You do not have to provide food or beverages for the referees and volunteers.
4. You will need to operate a canteen to provide food and beverages during the two-day tournament. Profit from canteen sales cannot exceed 100% of the cost of an item.
5. There will be 300 to 400 spectators at the tournament each day. You can expect to sell between 150 and 200 weekend passes for a maximum of \$5 each and between 150 and 200 single-day admissions each day for a maximum of \$3 each.
6. You will need to arrange for two referees per game. Each referee earns \$20 per game.
7. Gymnasium space for the banquet and games is available in local schools but must be booked. Fees for gym rental are \$75 per gym per day.
8. You must purchase various awards for the tournament. The winning team will receive a trophy. You have the option of deciding whether participants will receive trophies, medals or ribbons for certain categories (e.g. sportsmanship, most valuable player, etc.)
9. You must be able to show a profit at the end of the tournament.
10. All prices provided include tax.

## **Directions for the *Planning a Tournament Project***

**Your completed project must include the following information:**

- a letter of invitation to the other teams
- your decisions for
  - the number of spectators attending
  - the menu choice
  - the canteen sales
  - the awards
- a detailed budget showing all revenues and expenses, and the profit

**Your completed project must**

- be separate from this *Project Resource Package* booklet
- be well organized and clearly presented with an introduction and a conclusion
- include justifications of any assumptions or decisions you make in completing your project
- be printed from a computer, or written in blue or black ink



## Note to teacher

The purpose of this document is to assist teachers in detecting reasonable calculations and sufficient data when scoring student projects. The document includes a scoring rubric and a sample response to the project.

A variety of organizational structures and types of responses to the *Planning a Tournament* project is anticipated. Student explanations for their decision making will vary. When planning the tournament, students may consider many issues, including

- the number of spectators attending
- the amount sold at the canteen
- the choice of meal to serve
- the number and type of awards given out

## Scoring the Project

Student projects are scored using a pre-established rubric that covers three broad categories. The scores awarded are placed on a *Project Scoring Sheet*. The “Organization/Structure and Communication” category primarily focuses on how the student has organized and communicated work. Judging whether the student selected required data and used appropriate mathematical procedures is the primary focus of the “Data Selection/Analysis” category. The third category, “Concepts/Reasoning”, is primarily focused on judging if the student understood necessary concepts and demonstrated logical reasoning in drawing conclusions and making justifications.

The order of proceeding through the rubric and completing the *Project Scoring Sheet* is a decision teachers make based on personal preference. For example, some teachers may decide to start by reviewing the “Organization/Structure and Communication” category first. This would involve reviewing the project to judge how the student met the criteria outlined in the rubric. These teachers might then move to the “Data Selection/Analysis” category and finally to the “Concepts/Reasoning” category. Other teachers may decide to start at the “Data Selection/Analysis” category then move to the “Organization/Structure and Communication” category followed by the “Concepts/Reasoning” category.

The “Consider the Following” section of the rubric is specific to each project. The items listed under the heading are not intended to be exhaustive but rather they are included to assist teachers in their marking.

If the project is not submitted, then shade in the “no submission” bubble on the scoring sheet and do not shade in the “insufficient information” bubbles.

## Consumer Mathematics: Project Scoring Rubric

### *Planning a Tournament Project*

Consumer Mathematics: Project Scoring Rubric	Consider the Following:
<p><b>Organization/Structure and Communication</b></p> <p><b>Has the student communicated mathematical and other relevant information in a clear and organized way?</b></p> <ul style="list-style-type: none"> <li>— Organization/Structure (effective use of introduction[s], sections and/or headings, conclusion[s] or summary statement[s]...)</li> <li>— Communication (effective use of charts, tables, graphs, etc. to display data and relevant information; clear presentation; effective use of terminology)</li> </ul>	<ul style="list-style-type: none"> <li>— Introduction, heading(s)/subheading(s), conclusion(s) summary statements(s)</li> <li>— Presentation of letter and budget</li> </ul>
<p><b>Data Selection/Analysis</b></p> <p><b>Has the student selected and analyzed data appropriately?</b></p> <ul style="list-style-type: none"> <li>— Selection (required data selected)</li> <li>— Analysis (exploration of any relevant patterns or relationships, used mathematical procedures appropriately)</li> </ul>	<p>Detailed calculations for</p> <ul style="list-style-type: none"> <li>— Revenues               <ul style="list-style-type: none"> <li>• spectator passes</li> <li>• canteen</li> <li>• registration fees</li> </ul> </li> <li>— Expenses               <ul style="list-style-type: none"> <li>• referees</li> <li>• gym rentals</li> <li>• banquet costs</li> <li>• award expenses</li> </ul> </li> <li>— Profit</li> </ul>
<p><b>Concepts/Reasoning</b></p> <p><b>Has the student demonstrated an understanding of mathematical concepts as well as the ability to reason logically and draw appropriate conclusions?</b></p> <ul style="list-style-type: none"> <li>— Concepts (demonstrated understanding of essential mathematical concepts...)</li> <li>— Reasoning (evidence reasoning/logical thinking was involved in producing the project and in drawing appropriate conclusions...)</li> </ul>	<ul style="list-style-type: none"> <li>— Realistic justifications supported by evidence for               <ul style="list-style-type: none"> <li>• revenue</li> <li>• expenses</li> <li>• projected profit</li> </ul> </li> <li>— Realistic assumptions supported by evidence for               <ul style="list-style-type: none"> <li>• number of spectators</li> <li>• canteen sales</li> <li>• awards</li> </ul> </li> </ul>
<p><b>Performance Level:</b></p>	

	<b>Level 1 BELOW LEVEL DESCRIPTORS</b>		<b>Level 2 AT LEVEL DESCRIPTORS</b>		<b>Level 3 ABOVE LEVEL DESCRIPTORS</b>
<b>Insufficient Information/Evidence</b>	<p>Example:</p> <ul style="list-style-type: none"> <li>— little organization of ideas; limited (no) use of introductions, sections/headings, conclusion(s)/summary statement(s)</li> <li>— partially legible; information/details/calculations missing; vague presentation; difficult to follow</li> </ul>		<p>Example:</p> <ul style="list-style-type: none"> <li>— most ideas organized; generally appropriate use of introductions, sections/headings, conclusion(s)/summary statement(s)</li> <li>— legible; most information/details/calculations evident; generally effective presentation; can follow with little difficulty</li> </ul>		<p>Example:</p> <ul style="list-style-type: none"> <li>— exceptional organization of ideas; exemplary use of introductions, sections/headings, conclusion(s)/summary statement(s)</li> <li>— easy to read; insightful information/details/calculations evident; very effective presentation; easy to follow</li> </ul>
	<p>Example:</p> <ul style="list-style-type: none"> <li>— limited selection of required data</li> <li>— limited exploration of patterns/relationships; limited use of appropriate mathematical procedures (major computational errors)</li> </ul>		<p>Example:</p> <ul style="list-style-type: none"> <li>— most required data selected (minor omissions)</li> <li>— most patterns/relationships explored; most mathematical procedures used were appropriate (some computational errors)</li> </ul>		<p>Example:</p> <ul style="list-style-type: none"> <li>— all required data selected</li> <li>— insightful exploration of patterns/relationships; all mathematical procedures used were appropriate (only minor computational errors)</li> </ul>
	<p>Example:</p> <ul style="list-style-type: none"> <li>— limited evidence that the student understood the essential mathematical concepts</li> <li>— limited evidence of logical reasoning that led to appropriate conclusions; missing or incorrect justification(s)/explanation(s)</li> </ul>		<p>Example:</p> <ul style="list-style-type: none"> <li>— evidence that the student understood most of the essential mathematical concepts</li> <li>— evidence of logical reasoning (some minor inconsistencies) that led to appropriate conclusions; some plausible justification(s)/explanation(s)</li> </ul>		<p>Example:</p> <ul style="list-style-type: none"> <li>— evidence that the student understood all mathematical concepts</li> <li>— evidence of insightful and consistent reasoning that led to appropriate conclusions; clear and logical justification(s)/explanation(s)</li> </ul>
	<b>Level 1</b>	<b>Approaching Level 2</b>	<b>Level 2</b>	<b>Approaching Level 3</b>	<b>Level 3</b>
<b>0/5</b>	<b>1/5</b>	<b>2/5</b>	<b>3/5</b>	<b>4/5</b>	<b>5/5</b>

## Sample Calculation 1 (low fees, high expenses)

### *REVENUE*

Registration	12 teams $\times$ \$150	\$1 800.00
Admission	150 weekend $\times$ \$5	\$750.00
	150 daily $\times$ \$3 $\times$ 2 days	\$900.00
Canteen	200 daily $\times$ \$5/person $\times$ 2 days (200 players, coaches, spectators, volunteers)	\$2 000.00
<b>TOTAL REVENUE</b>		<b>\$5 450.00</b>

### *EXPENSES*

Gymnasium	Friday: 1 $\times$ \$75	\$75.00
	Saturday: 3 $\times$ \$75	\$225.00
	Sunday: 3 $\times$ \$75	\$225.00
Referees	24 games $\times$ 2 referees $\times$ \$20	\$960.00
Banquet	(\$9.95 + \$1.80 + \$2.80) $\times$ 144 (Charbroiled Alberta Beef)	\$2 095.20
Canteen	\$2 000 $\times$ 50%	\$1 000.00
Awards	First prize trophy	\$70.00
	First prize medals (12 $\times$ \$7)	\$84.00
	Second prize trophy	\$40.00
	Second prize medals (12 $\times$ \$7)	\$84.00
	Third prize medals (12 $\times$ \$7)	\$84.00
	Participation ribbons (9 teams $\times$ 12 players $\times$ \$1)	\$108.00
<b>TOTAL EXPENSES</b>		<b>\$5 050.20</b>
<b>NET PROFIT</b>		<b>\$399.80</b>

## Sample Calculation 2 (high fees, low expenses)

### ***REVENUE***

Registration	12 teams $\times$ \$350	\$4 200.00
Admission	200 weekend $\times$ \$5	\$1 000.00
	200 daily $\times$ \$3 $\times$ 2 days	\$1 200.00
Canteen	500 daily $\times$ \$7.50/person $\times$ 2 days (500 players, coaches, spectators, volunteers)	\$7 500.00
<b>TOTAL REVENUE</b>		<b>\$13 900.00</b>

### ***EXPENSES***

Gymnasium	Friday: 1 $\times$ \$75	\$75.00
	Saturday: 3 $\times$ \$75	\$225.00
	Sunday: 3 $\times$ \$75	\$225.00
Referees	24 games $\times$ 2 referees $\times$ \$20	\$960.00
Banquet	$(\$5.50 + \$1.50 + \$3.00) \times 144$ (Italian Buffet)	\$1 440.00
Canteen	\$7 500 $\times$ 50%	\$3 750.00
Awards	First prize trophy	\$70.00
<b>TOTAL EXPENSES</b>		<b>\$6 745.00</b>

<b>NET PROFIT</b>		<b>\$7 155.00</b>
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