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Grade 12  
Consumer Mathematics  
Standards Test

# Project Scoring Guide

Post-Secondary  
Education

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*Ce document est disponible en français.*

# **Excerpts from the Project Resource Package**

## **Welcome to the *Post-Secondary Education 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 this *Project Resource Package*
- share ideas related to the project in a brainstorming session
- begin developing your individual project

After the first project session

- 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 *Post-Secondary Education* Project**

In this project, you are a high school student preparing to move away from home to attend post-secondary education. You will need to make a variety of decisions for your next year living away from home.

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

1. You will be attending post-secondary school full time from September to April (8 months).
2. Full-time classes will be 30 hours per week (daytime, evenings, and weekends).
3. You must study a minimum of 10 hours per week.
4. This year's tuition fees have been paid for by scholarships, a student loan, and money saved by your parent/guardian(s).
5. You have saved \$6 000 towards your expenses.
6. Your net earnings will be 62% of your gross pay.
7. You must save a minimum of 10% of your net earnings.
8. Some of your expenses include:
  - textbook costs of \$850 per school year
  - school supplies (paper, pens, pencils, etc.) of \$100 per school year
  - transportation costs to return home at least once between September and April, at a cost of \$500 per visit
  - tenant's insurance at a cost of \$15 per month
  - gifts for family and friends at a cost of \$20 per month
9. All applicable taxes are included.

## Directions for the *Post-Secondary Education* Project

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

- decisions for living accommodations and employment
- a budget listing your income, expenses, and balance, for attending a post-secondary institution
- a detailed schedule for one week that demonstrates that you will have time for your schooling, studying, work, and lifestyle

**Your completed project must**

- be separate from this *Project Resource Package* booklet
- be well organized with an introduction and a conclusion
- be clearly presented with appropriate headings/subheadings
- 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

**A scoring guide similar to the one below will be used to grade your project.**

<b>Organization, Structure and Communication</b>	<b>Data Selection/Analysis</b>	<b>Concepts/Reasoning</b>
5 Marks	5 Marks	5 Marks
<ul style="list-style-type: none"><li>• Is your project organized and does it follow a logical presentation?</li><li>• Is your project easy to read?</li><li>• Is your information clearly presented?</li></ul>	<ul style="list-style-type: none"><li>• Did you select and use the required data?</li><li>• Did you explore patterns or relationships in the data where appropriate?</li><li>• Are mathematical procedures used correctly?</li></ul>	<ul style="list-style-type: none"><li>• Is there evidence that mathematical concepts are understood?</li><li>• Did you include clear and logical reasons, explanations, and conclusions that are appropriate to the project?</li></ul>



## 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 sample calculations pertaining to the Project.

A variety of organizational structures and types of responses to the *Post-Secondary Education* project is anticipated. Student explanations for their decision making will vary. When organizing the project students may consider many issues.

## 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

### *Post-Secondary Education*

Consumer Mathematics Project Scoring Rubric	Consider the Following:
<p><b>Organization/Structure and Communication</b>  <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)</li> <li>— presentation of               <ul style="list-style-type: none"> <li>• weekly schedule</li> <li>• budget</li> </ul> </li> <li>— detailed calculations</li> </ul>
<p><b>Data Selection/Analysis</b>  <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>	<ul style="list-style-type: none"> <li>— accountability for \$6 000 towards expenses</li> <li>— choice of living accommodation</li> <li>— choice of employment</li> <li>— detailed budget               <ul style="list-style-type: none"> <li>• income</li> <li>• savings (10% of net income)</li> <li>• expenses:                   <ul style="list-style-type: none"> <li>– textbooks</li> <li>– school supplies</li> <li>– homeowner’s/tenant’s insurance</li> <li>– transportation</li> <li>– gifts</li> <li>– food</li> <li>– housing costs</li> <li>– optional expenses</li> </ul> </li> </ul> </li> <li>— detailed weekly schedule               <ul style="list-style-type: none"> <li>• 30 hours of classes</li> <li>• 10 hours of study time</li> <li>• sleep</li> <li>• work</li> <li>• lifestyle</li> </ul> </li> </ul>
<p><b>Concepts/Reasoning</b>  <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 budget (cannot be a deficit)</li> <li>— realistic weekly schedule</li> <li>— appropriate assumptions/justifications/explanations/conclusions</li> </ul>
<p><b>Performance Level</b></p>	

	<b>Level 1 (NOT YET AT STANDARD)</b>		<b>Level 2 (AT STANDARD)</b>		<b>Level 3 (ABOVE STANDARD)</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 Weekly Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Midnight	Sleep	Sleep	Sleep	Sleep	Sleep	Go home	Sleep
1:00							
2:00							
3:00							
4:00							
5:00							
6:00							
7:00	Get Ready	Get Ready	Get Ready	Get Ready	Get Ready		Clean House
8:00	Go To School	Go To School	Go To School	Go To School	Go To School	Get Ready	
9:00	Classes	Classes	Classes	Classes	Classes	Study	Study
10:00							
11:00						Meet Friend	
12:00	Lunch	Lunch	Lunch	Lunch	Lunch	For lunch	Go To Work
13:00	Classes	Classes	Classes	Classes	Classes	Grocery Shopping	Work
14:00							
15:00						Go To Work	
16:00	Go To Work/Eat	Study at school	Go To Work/Eat	Study at school	Go To Work		
17:00	Work	Go home	Work	Get Together with Friends	Work	Work	Go Home
18:00		Supper					
19:00		Study					
20:00							
21:00		Relax					
22:00		Go Home					Go Home
23:00	Relax	Sleep	Sleep	Sleep	Relax		

## Monthly Employment Earnings Reference Sheet

Employment	Hourly Pay	Hours Worked	Monthly Gross Pay	Net Pay (62%)	Savings (10%)
Bookstore	\$8.50	5.5/shift	$5.5 \text{ h} \times \$8.50 \times 5 \text{ days} \times 52 \text{ weeks} \div 12 \text{ months} = \$1\,012.92$	\$628.01	\$62.80
Coffee Shop	$(\$9 + \$2) = \$11.00$	20/week (minimum)	$20 \text{ h/week} \times \$11 \times 52 \text{ weeks} \div 12 \text{ months} = \$953.33$	\$591.07	\$59.11
Restaurant	$(\$8.50 + \$4) = \$12.50$	10/week	$10 \text{ h/week} \times \$12.50 \times 52 \text{ weeks} \div 12 \text{ months} = \$541.67$	\$335.83	\$33.58
Small Business	\$13.50	117/month	$117 \text{ h} \times \$13.50 = \$1\,579.50$	\$979.29	\$97.93

## Monthly Cost Calculations Reference Sheet

Accommodations	Accommodations Costs Per Month	Insurance Cost	Supplies and Textbooks	Trip Home	Gifts	Total Fixed Costs
Campus	$\$3\,689.50 \div 8 = \$461.19$	\$15	$\$950 \div 8 = \$118.75$	$\$500 \div 8 = \$62.50$	\$20	\$677.44
One-Bedroom Apartment*	$\$585 + \$37 = \$622$					\$838.25
Two-Bedroom Apartment*	$\$890 + \$30 = \$920 \div 2 = \$460$					\$676.25
Rent House	$\$1\,500 + \$350 = \$1\,850 \div 4 = \$462.50$					\$678.75

\*with optional parking included

## Monthly Budget Sample Calculation 1

### Campus Bookstore and On-Campus Living

#### Income

Campus Bookstore	$\$8.50 \times 27.5 \text{ hours/week} \times 52 \text{ weeks} \div 12 \text{ months} \times 0.62$	\$628.01
Savings	$\$6\,000 \div 8 \text{ months}$	\$750.00

#### Total Income

\$1 378.01

#### Expenses

Savings	$\$628.01 \times 0.10$	\$62.80
Textbooks	$\$850 \div 8$	\$106.25
School Supplies	$\$100 \div 8$	\$12.50
Insurance		\$15.00
Trip Home	$\$500 \div 8$	\$62.50
Gifts		\$20.00
Rent	$\$3\,689.50 \div 8$	\$461.19
Cable (Unlimited)		\$138.88
Internet (DSL)		\$51.51
Land-Line Phone		\$39.20
Bus Fare (10)		\$16.50
Food	$(\$4 \times 6) \times 52 \text{ weeks} \div 12$	\$104.00
Snacks	$\$15 \times 52 \text{ weeks} \div 12$	\$65.00

#### Total Expenses

\$1 155.34

#### Balance

\$222.67

## Monthly Budget Sample Calculation 2

### Coffee Shop and Four-Bedroom House

#### Income

Coffee Shop	$(\$9 + \$2) \times 20 \text{ hours/week} \times 52 \text{ weeks} \div 12 \text{ months} \times 0.62$	\$591.07
Savings	$\$6\,000 \div 8 \text{ months}$	\$750.00

#### Total Income

**\$1 341.07**

#### Expenses

Savings	$\$591.07 \times 0.10$	\$59.11
Textbooks	$\$850 \div 8$	\$106.25
School Supplies	$\$100 \div 8$	\$12.50
Insurance		\$15.00
Trip Home	$\$500 \div 8$	\$62.50
Gifts		\$20.00
Rent	$(\$1\,500 + \$350) \div 4$	\$462.50
Basic Cable		\$33.59
Internet (DSL)		\$51.51
Land-Line Phone		\$22.40
Bus Fare (monthly)		\$57.00
Food	$(\$4 \times 14 + \$6 \times 7) \times 52 \text{ weeks} \div 12$	\$424.67
Snacks	$\$15 \times 52 \text{ weeks} \div 12$	\$65.00
Clothes		\$50.00
Entertainment		\$50.00

#### Total Expenses

**\$1 492.04**

#### Balance

**-\$150.97**

**Note to teacher:** Student should balance his/her budget.

For example: Student would have to make/explain some adjustments (increase the number of hours worked or remove some luxury items).

