

**TIPS4RM** Targeted Implementation  
and Planning Supports for  
Revised Mathematics

# Summative Tasks

## Grade 8

<b>Grade</b>	8
<b>Total time</b>	240 minutes (4 60-minute periods)
<b>Materials</b>	calculator, graph paper, pens, pencils, rulers, erasers, (GSP <sup>®</sup> 4 optional)
<b>Description</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>investigate the cost structures of three venues for hosting a charity event;</li> <li>create graphs to represent the cost structure for each venue and use the graphs to determine the most cost effective location and justify their choice of venue;</li> <li>understand the problem: complete KMWC (Know, Model, What, Cross out);</li> <li>determine strategies for solving the problem;</li> <li>solve the problem;</li> <li>use their work to justify that their choice of venue is most cost effective.</li> </ul>
<b>Expectations Assessed</b>	<p><b>Mathematical Process Expectations</b></p> <p><b>8m1 • Problem Solving</b> • develop, select, apply, and compare a variety of problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding;</p> <p><b>8m2 • Reasoning and Proving</b> • develop and apply reasoning skills to make mathematical conjectures, assess conjectures and justify conclusions, and plan and construct organized mathematical arguments;</p> <p><b>8m3 • Reflecting</b> • demonstrate that they are reflecting on and monitoring their thinking to help clarify their understanding as they complete an investigation or solve a problem;</p> <p><b>8m7 • Communicating</b> • communicate mathematical thinking orally, visually, and in writing, using mathematical vocabulary and a variety of appropriate representations, and observing mathematical conventions.</p> <p><b>Number Sense and Numeration</b></p> <p><b>8m9</b> • solve problems involving whole numbers using a variety of computational strategies.</p> <p><b>Patterning and Algebra</b></p> <p><b>8m54</b> • represent linear growing patterns (where the terms are whole numbers) using graphs, algebraic expressions, and equations;</p> <p><b>8m55</b> • model linear relationships graphically and algebraically, and solve and verify algebraic equations, using a variety of strategies, including inspection, guess and check, and using a “balance” model.</p> <p><b>Data Management and Probability</b></p> <p><b>8m66</b> • apply a variety of data management tools and strategies to make convincing arguments about data.</p>
<b>Prior Knowledge/ Skills</b>	<p>Students should be able to:</p> <ul style="list-style-type: none"> <li>create tables to organize data;</li> <li>create graphs to display data;</li> <li>interpret and analyse data;</li> <li>estimate to know whether answers are reasonable;</li> <li>justify/defend results;</li> <li>present information in a variety of formats.</li> </ul>
<b>Assessment Tools</b>	<p>Observation Checkbric  Student Self-Assessment  Rubric (teacher-created)</p>

**Description**

- Understand the problem: complete KMWC (Know, Model, What, Cross out).

*This lesson clarifies the mathematics being assessed. Assessment data gathered from this activity can be recorded under Learning Skills.*

**Materials**

- BLM 1.1, 1.2
- dictionaries, glossaries, thesauri

**Assessment Opportunities**

**Minds On... Whole Class → Guided Discussion**

Set the context for the assessment task by asking:

- If you were raising money which charity would you choose to support? Explain.
- If you were organizing a fundraising party, what arrangements would you make?
- How would you choose the location for the party?
- What factors would you need to consider? Explain

**Action!**

**Small Groups → Vocabulary Reinforcement**

In groups of four, students read the problem (BLM 1.1) and underline words/phrases they are unfamiliar with.

Give each group several Word Cards with a word from the problem. Each student writes down a phrase/synonym that helps define the word on the Word Card. After 20 seconds each student passes the Word Card clockwise to the next student who records his/her ideas on the card.

Rotate the Word Cards until each group member has written on each Word Card. As a group, students discuss what each word means and with the aid of resources (dictionary, glossary, and thesaurus) define each word and explain how it is used.

**Learning Skills/Observation/Anecdotal Notes:** Gather assessment data on Learning Skills through observation of individual students, e.g., observing the student working in groups to define the words, persevering with the task, etc.

**Whole Group → Sharing**

Groups share their definitions with the class.

**In Pairs → Problem Solving**

Students read the problem again and complete BLM 1.1.

**Consolidate Debrief**


**Whole Class → Share**

The pairs/groups share their KMWC organizer to consolidate their understanding.

Collect the KMWC organizers to assess students' understanding of the problem and to determine which students may require further discussion and support before beginning the assessment task on Day 2. Return their KMWC organizers at the beginning of Day 2 so that students can use them as a reference to guide their thinking and problem solving.

**Home Activity or Further Classroom Consolidation**

Choose four words presented today and write each word on an index card. Divide the back of the card into four areas and in each area create a visual/personal connection reference for the vocabulary.

<i>Vocabulary Term</i>	<i>Visual Representation</i>
<i>Definition in Students' Words</i>	<i>Personal Association</i>
minimize	
<ul style="list-style-type: none"> <li>• make something smaller</li> <li>• get something for a lesser cost</li> </ul>	I bought an amusement park season's pass which minimizes the cost if I go more than twice.

Check newspapers and magazines for relevant/current article(s) on charities

- Word Cards:
- minimize
  - excess
  - rate
  - minimum total charge
  - flat fee
  - venue
  - charity
  - profit
  - establishment
  - refreshments

Teacher assesses students' understanding of the problem and provides support to groups or individual students who demonstrate a need.

This activity supports students in consolidating their understanding of the key vocabulary necessary to solve the problem.

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## 1.1: Reading a Problem – KMWC

### Problem: Hosting a Charity Event

(Adapted from Impact Math)

Pilar, Steve, and members of the Social Justice Club are hosting a charity event to raise money for people in need. They want to spend as little money as possible to rent a room and provide light refreshments. Everyone in attendance will pay an admission fee that will cover costs and include a profit. Any profit made will be donated to a local charity.

In order to minimize costs, Pilar and Steve obtain quotes from three venues for the cost of an event of up to 80 people.

Analyse the three quotes and answer the question,

*Where should the Social Justice Club host the charity event?*

#### Venue 1

At the Galaxy Inn, we offer a special student rate of \$17 per person and a minimum total charge of \$400.00.

#### Venue 2

At the Noble Pines Country Club, we charge a flat fee of \$90 plus \$14 per guest.

#### Venue 3

At the Holiday Lodge, we charge \$500 for the first 25 guests and then \$12 per guest for those in excess of 25.

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## 1.1: Reading a Problem – KMWC (continued)

<b>K:</b> What facts do I <b>KNOW</b> from the information in the problem?	
<b>M:</b> How can I <b>MODEL</b> the situation with a picture or manipulatives?	
<b>W: WHAT</b> does the problem ask me to find?	
<b>C: CROSS OUT</b> any facts that are not needed.	

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## 1.2: Self-Assessment Checklist

I have included:

Task	Working On It	Completed
My KMWC Organizer		
My table and graph for each venue:		
Venue 1		
Venue 2		
Venue 3		
<b><u>My Final Report</u></b> Recommendations for the Charity Fundraising Venue including:		
<ul style="list-style-type: none"><li>the approximate number of guests expected to attend</li></ul>		
<ul style="list-style-type: none"><li>the cost at each venue for the approximate number of guests</li></ul>		
<ul style="list-style-type: none"><li>graphs and tables to support that my recommendation offers the lowest cost</li></ul>		
<ul style="list-style-type: none"><li>possible reasons why the venue offering the lowest cost might not be the best choice</li></ul>		

**Description**

- Determine strategies for solving the problem.
- Solve the problem.

*Assessment data gathered from this activity can be recorded in the Number Sense and Numeration and the Patterning and Algebra Strands.*

**Materials**

- BLM 2.1, 2.2
- GSP<sup>®</sup>4 (optional)
- calculators
- envelopes/folders

**Assessment Opportunities****Minds On... Whole Class → Guided Discussion**

Review vocabulary and KMWC from Day 1 and post words on the Word Wall. Students' can use their KMWC organizer for reference during the task. They include it in their final submission.

Display the task on overhead and read it as a class.

Which venue should the social justice club choose?

Complete a table of values to represent the quote form each venue.

Discuss the assessment tools. Students ask clarifying questions.

**Action! Individual → Problem Solving**

Students work independently to solve the task (BLM 1.3 and 2.1).

Circulate to provide support and complete Task Checkbric: Hosting a Charity Event (BLM 2.4).

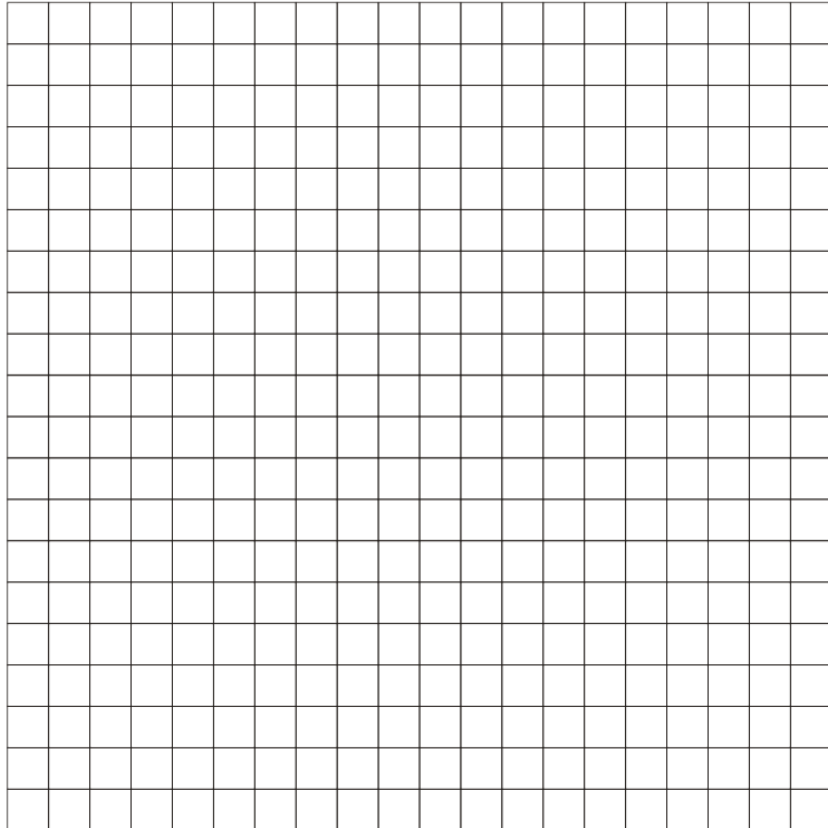
Students can use The Geometer's Sketchpad<sup>®</sup>4 (GSP<sup>®</sup>4) to plot the data for each venue.

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## 2.1: Table and Graph – Venue 1 (Galaxy Inn)

Complete a table of values and a graph to represent the quote.

Number of Guests	Cost





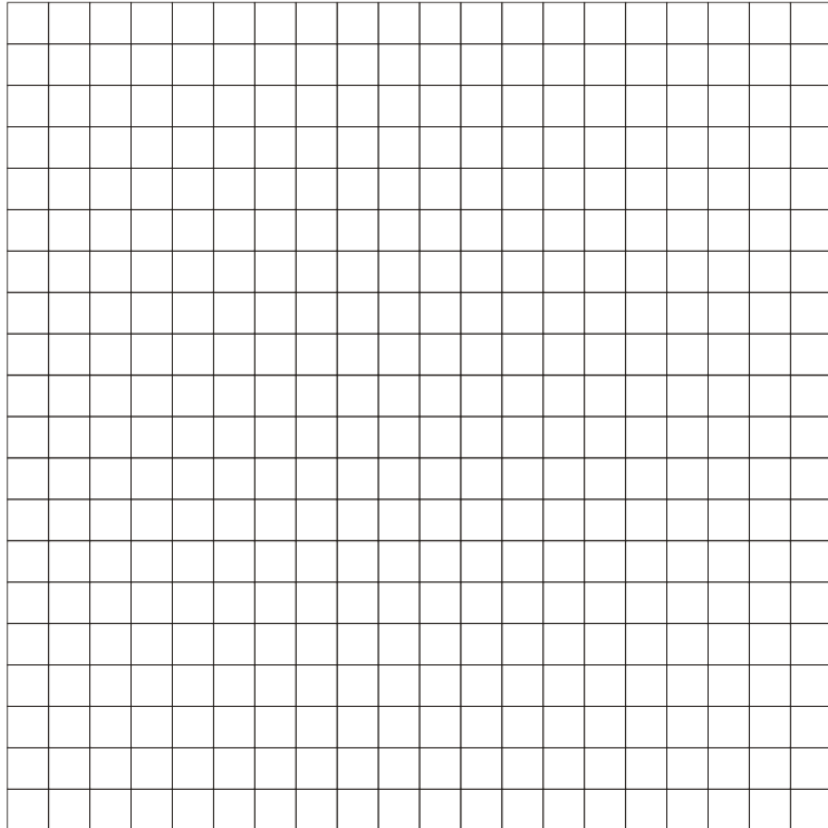
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## 2.1: Table and Graph – Venue 2 (Noble Pines Country Club)

Complete a table of values and a graph to represent the quote.

Number of Guests	Cost

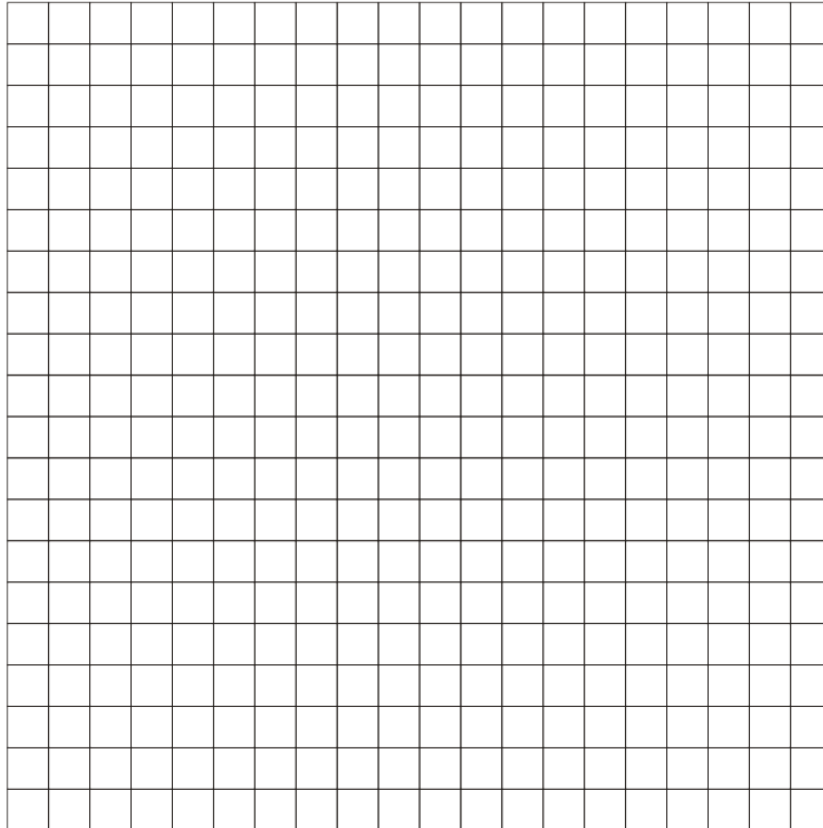


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## 2.1: Table and Graph – Venue 3 (Holiday Lodge)

Complete a table of values and a graph to represent the quote.

Number of Guests	Cost



## 2.2: Task Checkbric: Hosting a Charity Event (Teacher)

Student	Understands the Problem	Completed KMWC	Represented Venues, 1, 2, 3 Graphically	Completed Final Report
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**Description**

- Use their work to justify that their choice of venue is most cost effective.

**Materials**

- BLM 4.1, 4.2

*Assessment data gathered from this activity can be recorded in the Number Sense and Numeration and the Data Management and Probability Strands.*

**Assessment Opportunities**



**Minds On... Whole Class → Guided Discussion**

Display an overhead of the final report task (BLM 1.4).  
Read and discuss expectations. Students ask clarifying questions.



**Action! Small Groups → Report Writing**

Students create a report following the criteria outlined in BLM 4.1.  
Students decide how they will report their findings:

- submit a written report;
- complete a presentation using computer software;
- make an oral presentation with visual supports or participate in a conference with the teacher.

Students complete the Assessment Checklist and re-visit the assessment rubric to assess how well they have met the criteria.

Students must include all work completed during the assessment task in the final report.



**Consolidate Debrief Whole Class → Share**

Students present their report to the class.

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## 4.1: Making a Choice

Based on attendance at past events, Pilar and Steve believe that between 20% and 25% of the 80 people invited will not attend.

Write a report to the faculty advisor, Ms. Vohra, recommending one of the three venues.

Support your recommendation by including the following elements in your report:

- the approximate number of guests who are expected to attend;
- the cost at each venue for the approximate number of guests;
- graphs and tables to support that your recommendation offers the lowest cost;
- possible reasons why the location offering the lowest cost might not be the best choice.

<b>Grade</b>	8
<b>Total time</b>	300 minutes (4 60-minute periods)
<b>Materials</b>	CDs, CD-ROMs, and DVDs The Geometer's Sketchpad <sup>®</sup> 4, calculators, pattern blocks, algebra tiles, CD spindles
<b>Description</b>	<p>Students:</p> <ul style="list-style-type: none"> <li>gather data for a business that plans to cut a CD;</li> <li>design a CD label that meets criteria involving geometry, area, and fractions;</li> <li>choose a printing option for the CD labels based on cost of paper;</li> <li>determine the selling price for the CD based on a breakdown of the average selling price of Canadian CDs;</li> <li>calculate shipping costs based on the number of boxes of CD containers required;</li> <li>create a histogram to convince the bank manager that CD sales have remained stable over the past 16 years.</li> </ul>
<b>Expectations Assessed</b>	<p><b>Mathematical Process Expectations</b></p> <p><b>8m1 • Problem Solving</b> • develop, select, apply, and compare a variety of problem-solving strategies as they pose and solve problems and conduct investigations, to help deepen their mathematical understanding;</p> <p><b>8m2 • Reasoning and Proving</b> • develop and apply reasoning skills to make mathematical conjectures, assess conjectures and justify conclusions, and plan and construct organized mathematical arguments;</p> <p><b>8m3 • Reflecting</b> • demonstrate that they are reflecting on and monitoring their thinking to help clarify their understanding as they complete an investigation or solve a problem;</p> <p><b>8m4 • Selecting Tools and Computational Strategies</b> • select and use a variety of concrete, visual, and electronic learning tools and appropriate computational strategies to investigate mathematical ideas and to solve problems;</p> <p><b>8m7 • Communicating</b> • communicate mathematical thinking orally, visually, and in writing, using mathematical vocabulary and a variety of appropriate representations, and observing mathematical conventions.</p> <p><b>Number Sense and Numeration</b></p> <p><b>8m9</b> • solve problems involving whole numbers, decimal numbers, and fractions using a variety of computation strategies;</p> <p><b>8m10</b> • solve problems by using proportional reasoning in a variety of meaningful contexts.</p> <p><b>Measurement</b></p> <p><b>8m31</b> • determine the relationships among units and measurable attributes, including the area of a circle and the volume of a cylinder.</p> <p><b>Geometry and Spatial Sense</b></p> <p><b>8m40</b> • demonstrate an understanding of the geometric properties of quadrilaterals and circles and the applications of geometric properties in the real world.</p> <p><b>Patterning and Algebra</b></p> <p><b>8m54</b> • represent linear growing patterns (where the terms are whole numbers) using graphs, algebraic expressions, and equations.</p> <p><b>Data Management and Probability</b></p> <p><b>8m65</b> • collect and organize categorical, discrete, or continuous primary and secondary data and display the data using charts and graphs, including frequency tables with intervals, histograms, and scatter plots;</p> <p><b>8m66</b> • apply a variety of data management tools and strategies to make convincing arguments about data.</p>

<b>Prior Knowledge/Skills</b>	Students should be able to: <ul style="list-style-type: none"><li>• perform operations with fractions;</li><li>• apply unit rates;</li><li>• apply circle formulas;</li><li>• determine volume of a cylinder;</li><li>• estimate;</li><li>• create tables to organize data;</li><li>• graph linear relationships from a table;</li><li>• translate statements describing mathematical relationships into algebraic expressions and equations;</li><li>• analyse data to make convincing arguments;</li><li>• use GSP<sup>®</sup> 4 to create geometric shapes (optional).</li></ul>
<b>Assessment Tools</b>	Observation Checkbric Problem-Solving Rubric (teacher-created) Student Self-Assessment

**Description**

- Calculate the area of the top surface of a CD (less the centre hole).
- Decide what fraction of the area of the top surface of the CD their label will cover (within a range).
- Multiply fractions to determine what fraction of the CD will be red and green.

*Assessment data gathered from this activity can be recorded under the Geometry and Spatial Sense and Number Sense strands.*

**Materials**

- Music CDs, CD-ROMs, and DVDs
- envelopes/folders
- BLM 1.1, 1.2, 1.3
- GSP®4 Sketch – CD scale diagram (optional)

**Assessment Opportunities**

**Minds On... Think-Pair Share → Setting the Stage**

Students examine labels on CDs, CD-ROMs, and DVDs and consider the following questions:

- Why don't the labels cover the entire surface of a CD?
- About how much of a CD surface is not covered by the label?
- How can we calculate how much of the surface is covered by the label?

Pairs share ideas with the class.

Elicit the formula for the area of a circle and post it as a reference for the remainder of the task.

**Whole Class → Introducing the Problem**

Distribute envelopes/folders and BLM 1.1 and 1.2.

Students put their names on their envelopes/folders.

Read through the various components of the task and review the criteria for the label design with the students.

Students ask clarifying questions.

Have pattern blocks and pattern block paper available.

**Action! Individual → Designing a Label**

Students design a label for their CD that fits the criteria.

Use the Task Checklist: Cutting a CD (BLM 1.3) to track students as they work through this and the other sub-tasks.

**Consolidate Debrief Whole Class → Collecting Work**

Collect students' work in their envelopes/folders. They continue the tasks next day.



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## 1.1: Cutting a CD

Your band has scheduled a meeting with the manager of a local bank to present a business plan to cut a CD.

Over the next few days, there are several decisions you need to make regarding the production of your CD before submitting a proposal to the bank manager for final approval.

You will:

- design a label for your CD;
- choose a printing option for the labels;
- determine a selling price for your CD;
- calculate the shipping costs for your CDs;
- present your plan to the manager of the bank.

The criteria for each of these tasks will be outlined as each new task is introduced.

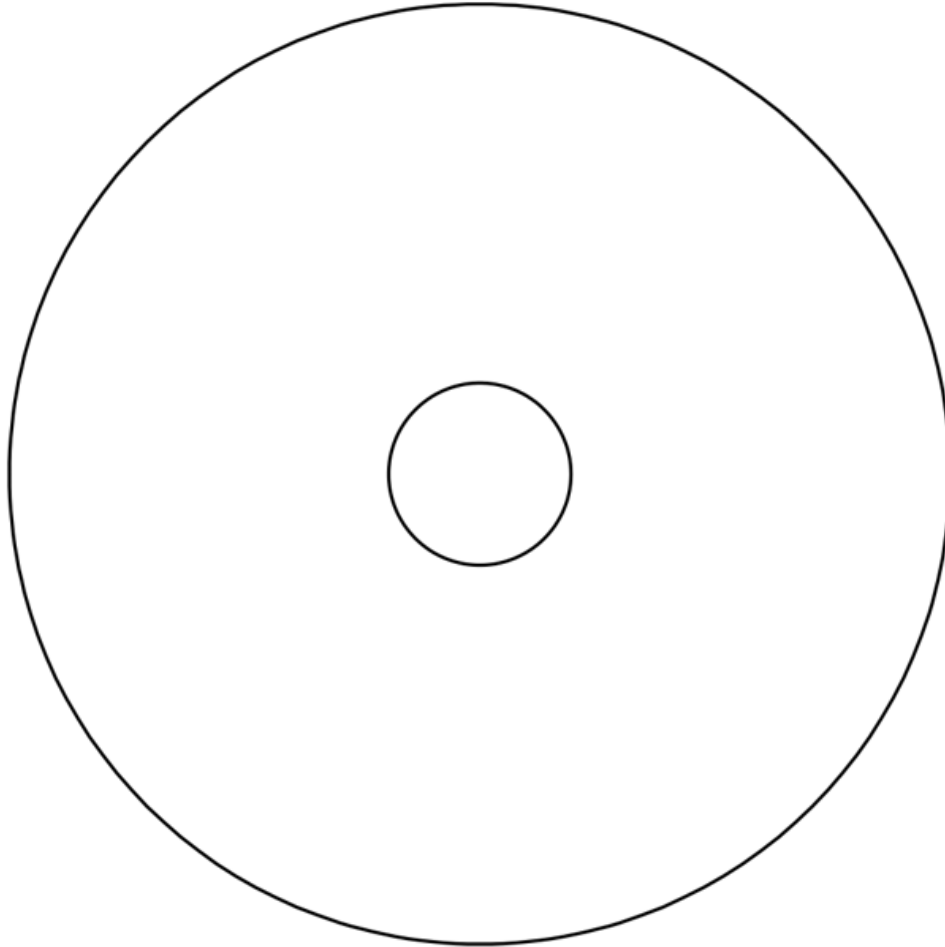
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## 1.2: Designing a Label for Your CD

To promote the unique quality of your music, the label for your CD must also be unique.

- A. Create a label on the scale diagram below that:
- includes a quadrilateral shape;
  - covers between one-half and four-fifths of the CD's top surface;
  - is one-third red and one-quarter green;
  - has a maximum of four colours.

Justify that your design meets each of the above criteria.



- B. Determine the fraction of the top surface of the CD that is each colour. For example, if one-third of the label is red; the label is four-fifths of the CD; what fraction of the CD's top surface is red?

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### 1.3: Task Checklist – Cutting a CD (Teacher)

Student Name	Created label design for CD	Completed printing option comparison	Completed tables and graphs to represent MFG costs	Determined a selling price for the CD	Constructed a histogram to show stable CD sales
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**Description**

- Apply circle formulas to determine how many circular labels will fit on a printing sheet.
- Determine the most cost-efficient option for printing labels.

**Materials**

- BLM 2.1, 2.2
- circular counters such as bingo chips

*Assessment data gathered from this activity can be recorded under the Measurement and Number Sense and Numeration strands.*

**Assessment Opportunities**

**Minds On... Whole Class → Guided Discussion**

Explain the concept of cost-efficiency.  
 Discuss what constitutes an efficient print layout.  
 Read the task (BLM 2.1). Students ask clarifying questions.

**Action! Individual → Problem Solving**

Students determine which printing option is the most cost-efficient.  
 For students who need support ask the following focusing questions:

- How could you determine the maximum number of CD labels that would fit on each sheet?
- What is the area of each sheet?
- Which option minimizes waste?
- How does the shape of the sheet of paper impact on how efficient the print layout is?

Each printing sheet has an area of 1.44 m<sup>2</sup>. The square sheet of paper has less waste (80 CD labels per sheet for option A vs. 100 for option B). Unit price per label for Option A is \$0.0299 vs. Option B \$0.0279.

**Consolidate Debrief Individual → Presenting a Solution**

Students consolidate their work by composing an e-mail to the printing company outlining the printing option they have chosen and the reasons why they chose it (BLM 2.2).

Collect students' work in their envelopes/folders to continue the tasks next day.

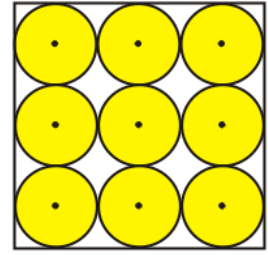
**Home Activity or Further Classroom Consolidation**

Review tables of values and graphing.

## 2.1: Making a Printing Decision

Your label design will be printed on an outline of the surface of the CD. Consider the costs to have the labels printed in large quantities.

Mr. Musique, production manager of the ABCD Printing Company has provided you with two options. See his memo below.



Both options use paper that is equal in quality, but different in dimensions.

Determine which option has the least waste and would be the most cost-efficient.

Reasons for your choice must be clear and convincing, as your bank manager will want to see a copy of your correspondence with the printing company.

**FROM:** P. Musique, Production Manager  
ABCD Printing Company

**RE:** Printing of CD Labels

Paper suitable for the printing of CD labels is available in two sizes:

**Option A**

Dimensions: 30 cm × 4.8 m  
Cost: \$2.39 per sheet

**Option B**

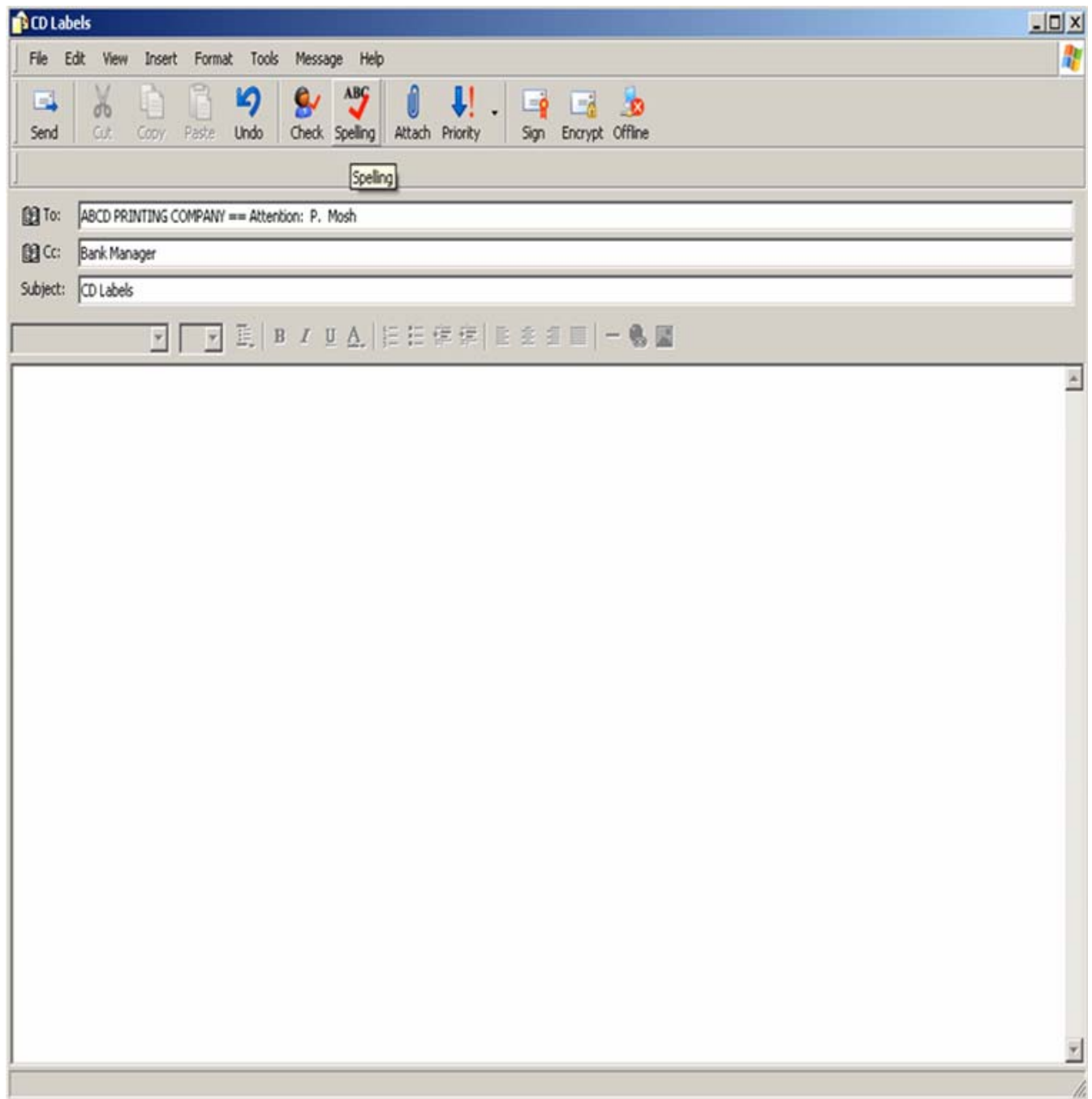
Dimensions: 1.2 m × 1.2 m  
Cost: \$2.79 per sheet



Please contact me by e-mail by end of this business day with your decision.

## 2.2: Printing Recommendation

Outline your choice of printing option for the CD labels in this e-mail to Mr. Musique. Include reasons for your choice.



**Description**

- Create tables of values to determine production costs.
- Transfer data from tables of values to graphs.
- Use graphs to determine maximum number of CDs the budget will allow.
- Determine the unit cost of a CD.
- Connect music industry data to determine final selling price (finding 100%).
- Determining the diameter given the volume of a cylinder.
- Connect to prior knowledge of right prism volumes.

**Materials**

- BLM 3.1, 3.2
- graph paper
- calculator
- spindle of 50 CDs

*Assessment data gathered from this activity can be recorded under the Patterning and Algebra and Number Sense and Numeration strands.*

**Assessment Opportunities**

**Minds On... Whole Class → Guided Discussion**

Discuss that production companies have set cost structures based on the number of items that are being produced. Clarify that “waived” means no charge.

Connect students’ prior knowledge of postage rates to the task of distributing heavier items in bulk.

Read the task instructions (BLM 3.1 and 3.2). Students ask clarifying questions.

**Action! Individual → Investigation**

Students determine how many CDs a projected manufacturing budget of \$4000 will allow (BLM 3.1).

For students who need scaffolding, provide tables with headings and they complete the table.

Number of CDs	Cost Part A	Cost Part B	Cost Part C
0–499			
500–999			
(continue by 500s)			

**Individual → Problem Solving**

Students connect their knowledge of volume of a cylinder to their knowledge of the volume of right prisms.

Students might try to divide the volume of the box by the volume of one CD spindle. Guide them to consider packing as a factor. The spindles do not fit into the container exactly (each box will hold 27 CD spindles and there is surface area remaining on the floor of the box). There is also wasted space between the cylindrical spindles.

Students organize their work from the tasks completed so far and hand in their envelope/folder.

**Part 1**  
2615 CDs can be produced for \$4000.

**Part 2**  
Using 2615 CDs, the selling price is \$17.00.

Collect students’ work in their envelopes/folders to continue the tasks next day.

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## 3.1: Determining a Selling Price

### Part 1

You've just met with MKDK Recording Studio's business manager. She has provided you with the company's cost structure for CD manufacturing.

- Part A:** If you order up to **1999** CDs, your costs is \$1000 for mastering + \$1.50 per CD manufactured.
- Part B:** If you order between **2000** and **4999** CDs, your costs is \$600 for mastering + \$1.30 per CD manufactured.
- Part C:** If you order **5000** or more CDs, your cost for mastering is waived and the cost per CD manufactured is \$1.10.

You estimate that you will have **\$4000** for manufacturing costs in your proposed budget.

Construct a table of values to illustrate the costs for manufacturing different numbers of CDs in each part of the cost structure.

Graph the data in a table of values.

Determine the number of CDs your band can have manufactured for \$4000. Explain your answer.

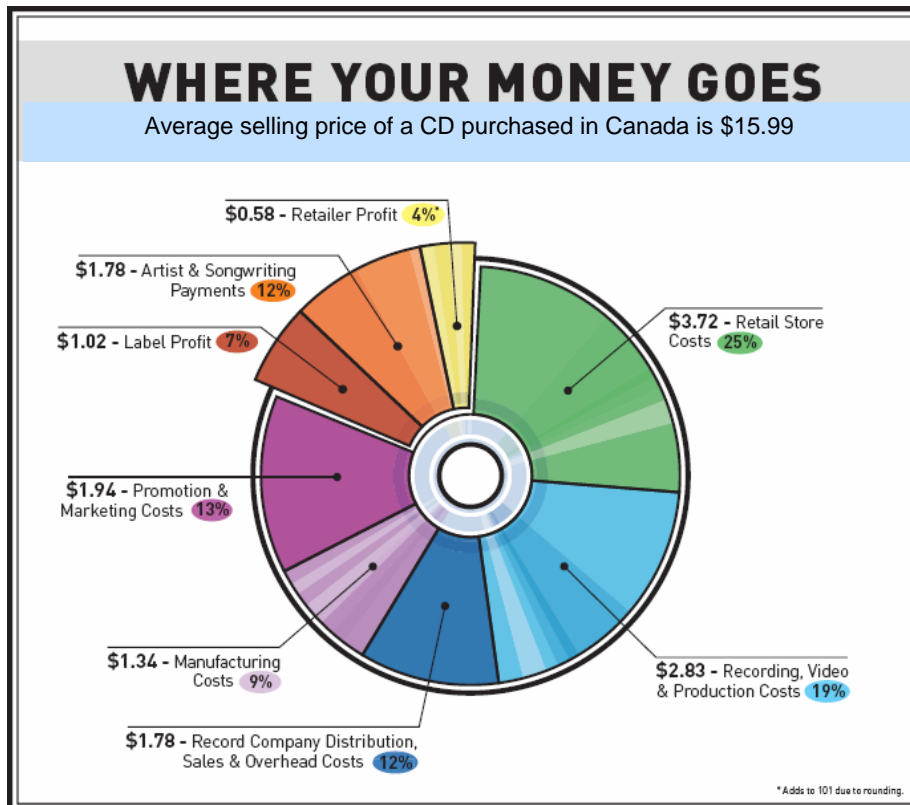


## 3.1: Determining a Selling Price (continued)

### Part 2

The selling price of a CD includes profit and the cost involved in producing the CD.

The circle graph below represents the profit and the processes as percents. The dollar amounts represent a CD whose selling price is \$15.99.



Source: Canadian Recording Industry Association

- A. According to the graph, what percent of the selling price are manufacturing costs?
- B. Calculate the selling price of your band's CD. Show how you determined the price using the data from the graph.

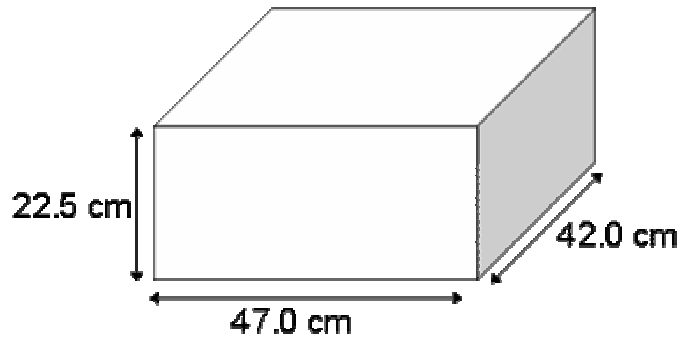
Refer to your calculations from the manufacturing costs.

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## 3.2: Sending the CDs on Their Way

Your final task is to consider the cost of shipping your CDs to distribution centres.

The VRT Shipping Company faxed a diagram of their standard shipping carton.



Your CDs will be packaged on spindles, of 50 CDs. The volume of each spindle, including its base, is  $1153.95 \text{ cm}^3$ , and its height is 7.5 cm.



The company's shipping rate per carton is \$30 for delivery within five business days.

Based on the number of CDs you will have manufactured, what will be the total cost for shipping? Explain your answer.

**Description**

- Create a graph to present data about the number of CD sales over the past 16 years.
- Make a convincing argument that sales have been stable and not declining.

*Assessment data gathered from this activity can be recorded under the Data Management and Probability strand.*

**Materials**

- BLM 4.1, 4.2
- graph paper
- calculators
- Fathom™/ Tinkerplots™ software (optional)

**Assessment Opportunities**

**Minds On... Whole Group → Introducing the Problem**

Place the problem in a context (BLM 4.1).

Students ask clarifying questions.

**Action! Individual → Problem Solving**

Students analyse the data and complete the task (BLM 4.1).

**Individual → Submitting a Report**

Students organize all of their assessment task work and submit their final business plan.

Students assess the completeness of their proposal (BLM 4.2).

Several articles can be found online both in support of the music industry's claims that peer-to-peer sharing has hurt the industry (CRIA – Canadian Record Industry Association), and in contradiction of those claims.

Students could complete their graph using Fathom™ software or Tinkerplots™. Using software allows students to easily manipulate the scales.

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## 4.1: Constructing a Graph

As you arrive to present your business plan, the bank manager is reading an article suggesting that peer-to-peer sharing of music has caused a decline in the sale of CDs over the past few years. The bank manager presents a table of CD sales from the article (Table 1), and expresses concern about lending money for your band to cut a CD.

Write a convincing argument to the bank manager that CD sales have remained relatively stable over the past 16 years. Use the data in Table 1 to construct a graph to support your argument.

(Hint: Consider different interval sizes on the other sales axis.)

**Table 1**

<b>Year</b>	<b>Sales of CDs (Millions of Dollars)</b>
1989	2587.7
1990	3451.6
1991	4337.7
1992	5326.5
1993	6511.4
1994	8464.5
1995	9377.4
1996	9934.7
1997	9915.1
1998	11416.0
1999	12816.3
2000	13214.5
2001	12909.4
2002	12044.1
2003	11232.9
2004	11446.5

Table 1 – Source: Recording Industry Association of America

## 4.2: Business Plan Checklist



Check your work to ensure that you have completed all parts of the business plan before submitting your proposal to the bank manager.

Description of Tasks	Checkmark
<b>Have I:</b>	
<ul style="list-style-type: none"><li>created a label that:<ul style="list-style-type: none"><li>is between one-half and four-fifths of the area of the CD?</li><li>contains a quadrilateral shape?</li><li>is one-third red and one-quarter green?</li><li>has four colours maximum?</li></ul></li></ul>	
<ul style="list-style-type: none"><li>determined what fraction of the CD each colour covers and shown my calculations?</li></ul>	
<ul style="list-style-type: none"><li>chosen an option for printing the CD labels and supported my choice with mathematical reasoning?</li></ul>	
<ul style="list-style-type: none"><li>constructed tables of values to show manufacturing costs of CDs?</li></ul>	
<ul style="list-style-type: none"><li>displayed the manufacturing cost data on a graph?</li></ul>	
<ul style="list-style-type: none"><li>determined the number of CDs I can have manufactured?</li></ul>	
<ul style="list-style-type: none"><li>calculated the final selling price of my CD shown my work?</li></ul>	
<ul style="list-style-type: none"><li>determined shipping costs for spindles of CDs explained my answer?</li></ul>	
<ul style="list-style-type: none"><li>written an argument that includes a graph to show that CD sales have been stable over the past 16 years?</li></ul>	