

5 Math Strategies

For My Year-End Exam Preparation

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Get Ready!

This booklet was specially designed to help you prepare for the year-end math exam. You will practise 5 math strategies as you solve the 18 problems in the booklet and fill out the accompanying worksheets.

Here is a quick look at the 5 strategies you will apply.

1. Clear the fog



Imagine that the problem is hidden in fog but that it becomes clear to you, bit by bit. This strategy will help you make assumptions as you gradually discover different parts of the problem. Your assumptions will be about what the context, facts and conditions of the problem mean and about the results you may get.

2. Reconstruct the problem



You will use this strategy in situations where essential information is missing. You will have to think of the information you need to solve the problem; this will give meaning to the calculations you have to do.

3. Assemble the puzzle



This strategy will help you present your work logically and clearly. To solve the problem, you will have a set of paper strips to put in order, as if you were doing a jigsaw puzzle.

4. Make lists



This strategy will help you make a list of the facts and conditions you will have to consider to solve the problem. If it is helpful, you can also include the steps you will take.

5. Create a solution map



By applying this strategy, you will practise grouping related information in a solution map so you can solve the problem part by part.

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1 The Canoe-Camping Trip



▶ To fully understand the problem, first make assumptions. Follow the steps on the last page of your booklet.

Your outdoor club has taken on a big challenge: a canoe-camping trip around the shores of gigantic Lake Bluewater.

You and your group plan to take the route called the Winding Way and complete the loop in 3 days and 2 nights. You can camp at one of the park's campsites or set up tents wherever wilderness camping is possible. Since you want to paddle no more than 40 km a day, you have to decide where you will stop to camp on each of the 2 nights of your trip.

A sign at the park entrance shows the different canoeing routes, but some information is missing.

Before the group sets out, you have to inform the park office of your plans. You have to fill out an itinerary indicating the distance you plan to travel each day and the places where you will stop for the night.



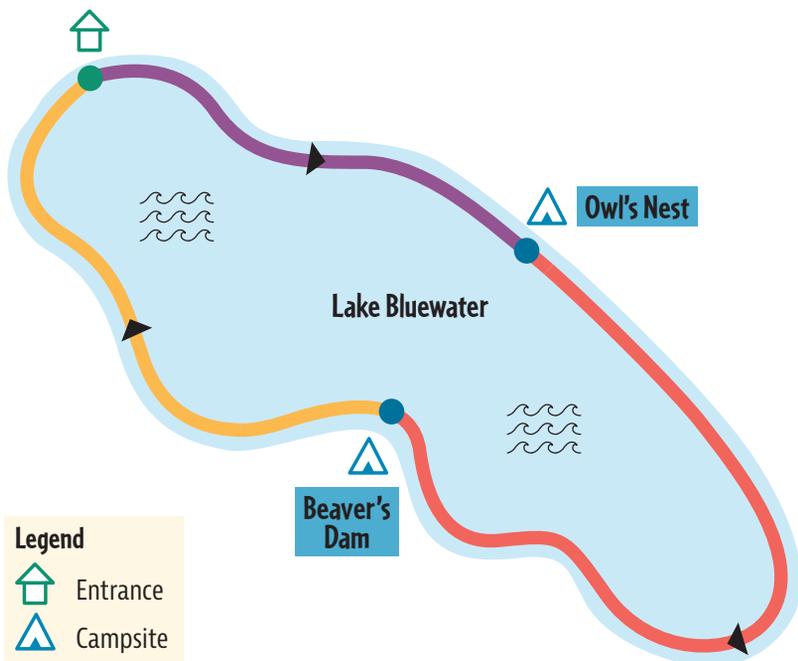
QUESTIONS

- ➔ How long is the Winding Way in all?
- ➔ Keeping in mind your canoeing limit of 40 km a day, how should you plan your itinerary if you want to spend one night at the Beaver's Dam campsite?

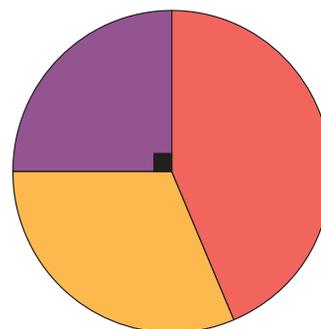
Information at the Park Entrance

Map of Lake Bluewater

Winding Way starting point



Section Lengths in the Winding Way



- 28 km
- 75% longer than the purple section
- $\frac{5}{7}$ of the red section

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Itinerary

Itinerary		
Day	Distance Covered (km)	Stopping Point for the Night
Day 1	_____	_____ km mark
Day 2	_____	Beaver's Dam campsite
Day 3	_____	Return to park entrance
Total distance	_____	

How can I calculate 75% more?



My Solution

Grid area for writing the solution.



Total length of the Winding Way: _____ km

Planned itinerary (distance to canoe each day): _____



2 The Destination Mosaic

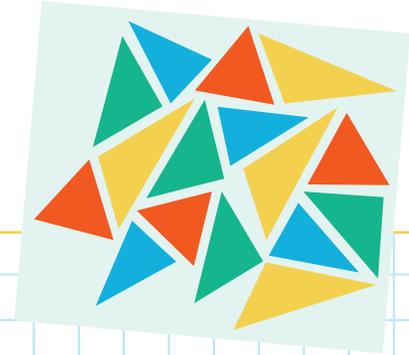


This year, the back-to-school theme is “travel.” To mark the occasion, the Grade 6 students are assembling a mosaic on a wall in the school hallway. The mosaic will be made up of triangles representing the students’ dream destinations on 4 continents. Countries of the same continent will be represented by triangles of the same shape and colour.

Each student has to choose a destination country, cut out the right type of triangle from the right colour of cardboard and write the name of the country on the triangle. Then the students will assemble the triangles to create a work of art in the colours of the 4 continents.

QUESTION

→ How many sheets of each colour of cardboard will the students need for all the triangles in the mosaic?



My Solution

Large grid area for writing the solution.



The 2 classes will need _____ blue cardboard sheets,
_____ yellow sheets, _____ red sheets and _____ green
sheets to make all the triangles for the mosaic.

▶ To complete the task, refer to page 5.

Facts of the Problem



Continent	Triangle to Cut Out
Africa	
Americas	
Asia	
Europe	



Countries Chosen by Mrs. Dupont's 24 Students, by Continent

Continent	Countries
Americas	$\frac{1}{8}$ of the countries
Asia	$\frac{1}{4}$ of the countries
Europe	$\frac{5}{12}$ of the countries
Africa	The rest of the countries

Countries Chosen by Mr. Ramsey's 28 Students, by Continent

Continent	Countries
Americas	$\frac{1}{7}$ of the countries
Asia	$\frac{1}{4}$ of the countries
Europe	$\frac{4}{14}$ of the countries
Africa	The rest of the countries

The students will use bristol board.

Triangles of the same colour are also the same size.

Number of Triangles Obtained per Sheet of Cardboard

Type of Triangle	Number of Triangles per Sheet
Equilateral	2 triangles per sheet
Isosceles	8 triangles per sheet
Isosceles right	4 triangles per sheet
Scalene	3 triangles per sheet

The cardboard sheets sold at the local arts and crafts store are all the same size.

Is it really useful to know the type of cardboard?



The coloured sheets come in different packs at the store.

Cardboard Sheets	Available in Packs of
Blue	5, 10 or 25
Yellow	10, 25 or 100
Red	50 or 100
Green	5, 10 or 25