

This content is also available in French. The *Charter of the French language*, its regulations and the **ministerial directive** govern the **consultation of English-language content**.

Guide for Parents

MINISTERIAL EXAMINATION

Mathematics

Elementary 6

522-610

Updated December 2025

Coordination and content

Direction de l'évaluation des apprentissages
Direction générale de la formation générale des jeunes et des adultes
Secteur de la pédagogie et des services à l'enseignement

Title of original document

Guide à l'intention des parents
Épreuve ministérielle
Mathématique
6^e année du primaire

English version

Services linguistiques en anglais
Direction du soutien au réseau éducatif anglophone
Ministère de l'Éducation

General information

Ministère de l'Éducation
1035, rue De La Chevrotière, 27^e étage
Québec (Québec) G1R 5A5
Telephone: 418-643-7095
Toll-free: 1-866-747-6626

© Gouvernement du Québec
Ministère de l'Éducation

ISSN 2818-9698 (PDF)
(French version: ISSN 2818-968X)

TABLE OF CONTENTS

INTRODUCTION	1
SECTION 1 MINISTERIAL EXAMINATIONS.....	1
NATURE AND OBJECTIVES OF THE EXAMINATIONS.....	1
CONDITIONS FOR ADMINISTERING THE EXAMINATIONS	1
SECTION 2 OVERVIEW OF THE EXAMINATION FOR MATHEMATICS	2
EVALUATION OF COMPETENCIES.....	2
SUMMARY OF THE EXAMINATION.....	2
CONTENT OF THE EXAMINATION.....	2
AUTHORIZED AND UNAUTHORIZED MATERIALS	3
SECTION 3 STEPS IN THE EXAMINATION FOR MATHEMATICS	4
ADMINISTERING THE EXAMINATION	4
MARKING	6
SECTION 4 EXCERPTS FROM MINISTERIAL EXAMINATIONS FOR MATHEMATICS	7
SITUATIONS INVOLVING APPLICATIONS	7
Example 1	7
Example 2	11
SITUATIONAL PROBLEM.....	15
Example of a Reference Document	15
Example of a Student Booklet.....	18
QUESTION BOOKLET	23
Examples of mental computation questions in Part A of the Question Booklet	23
Examples of questions in Part B of the Question Booklet	23
APPENDIX I RUBRIC FOR THE COMPETENCY <i>TO SOLVE A SITUATIONAL PROBLEM RELATED TO</i> <i>MATHEMATICS</i> – ELEMENTARY CYCLES TWO AND THREE.....	28
APPENDIX II RUBRIC FOR THE COMPETENCY <i>TO REASON USING MATHEMATICAL CONCEPTS AND</i> <i>PROCESSES</i> – ELEMENTARY CYCLES TWO AND THREE	29

INTRODUCTION

This guide is designed to inform parents about the Elementary 6 ministerial examination for Mathematics. It presents the structure of the exam and the administration procedures, as well as excerpts from past ministerial examinations.

The [Information Document](#), which provides complementary information as well as the most recent version of the rubrics, is also a recommended resource.

SECTION 1 MINISTERIAL EXAMINATIONS

NATURE AND OBJECTIVES OF THE EXAMINATIONS

The Elementary 6 ministerial examinations are set by the Minister of Education in order to monitor candidates' learning more closely at an important point in their education. These examinations take place in June.

Each ministerial examination is designed to evaluate the learning set out in the [Québec Education Program](#) and is based on the [Framework for the Evaluation of Learning](#) and the [Progression of Learning](#).

As everyone enrolled in any given exam session must write the same examination, the dates and times indicated in the [official schedule](#) must be respected. Only the Minister may authorize changes to the set schedule.

CONDITIONS FOR ADMINISTERING THE EXAMINATIONS

Educational institutions are the main entities responsible for making the necessary arrangements for the exams to take place (e.g. providing examination rooms), regardless of the education model (teaching provided at school or homeschooling).

To ensure equity and justice, the exam conditions must be the same for all candidates in Québec who write the exams. For this reason, the individuals designated to administer the examinations are given precise instructions to follow.

When the situations involving applications and the situational problem are administered, the evaluator must help candidates who need assistance. Certain types of assistance will not be taken into account in determining the candidate's result. This means that the evaluator can clarify or explain one or more non-mathematical words or expressions, read a statement, clarify the context related to the task or explain how the given information is organized without the candidate being penalized. However, any other type of assistance will be taken into account in determining the candidate's result.

When the Question Booklet is administered, the evaluator can only explain one or more non-mathematical words or expressions.

Measures that adapt the conditions for administering ministerial examinations may be taken to enable candidates with specific needs to demonstrate their learning. In order to request special measures, please communicate with the educational institution responsible for administering the examination at the beginning of the school year or, in the context of homeschooling, when setting up the learning project. The educational institution will analyze the candidate's needs and determine which adaptive measures will be permitted, if any.

SECTION 2 OVERVIEW OF THE EXAMINATION FOR MATHEMATICS

EVALUATION OF COMPETENCIES

The Elementary 6 Mathematics examination is designed to evaluate the following competencies:

- *To solve a situational problem related to mathematics*
- *To reason using mathematical concepts and processes*

SUMMARY OF THE EXAMINATION

The Mathematics examination takes place in an examination room at specific times, as set out in the [official schedule](#). It is conducted in the following order:

Day 1 – Administration of two situations involving applications

Day 2 – Administration of the situational problem

Day 3 – Administration of one situation involving applications and the Question Booklet

The three situations involving applications and the Question Booklet make it possible to evaluate the competency *To reason using mathematical concepts and processes*. A weighting of 60% is given to the three situations involving applications and a weighting of 40% is given to the Question Booklet, thereby providing a mark out of 100 for these four items.

The situational problem makes it possible to evaluate the competency *To solve a situational problem related to mathematics*. The mark for the situational problem is out of 100.

CONTENT OF THE EXAMINATION

The concepts and processes that could be used in the Mathematics examination for Elementary 6 relate to various branches of mathematics covered in the program, namely arithmetic (i.e. natural numbers, decimals, fractions, using numbers), geometry, measurement, statistics and probability. Concepts and processes that are covered in prior cycles and that are used again in Cycle Three according to the Progression of Learning may also be included in the examination.

AUTHORIZED AND UNAUTHORIZED MATERIALS

Authorized materials

The following table presents the authorized materials for each part of the exam, in addition to a pencil and an eraser.

Exam part	Authorized materials
Question Booklet – Part A	There are no authorized materials for this part of the exam, other than a pencil and an eraser.
Question Booklet – Part B and situations involving applications	Ruler Protractor Manipulatives (excluding labelled fraction, percentage and decimal number sets as well as nets for solids) Blank sheets of graph or regular paper Number grids Open number lines
Situational problem	Memory aid Calculator Ruler Protractor Manipulatives (excluding labelled fraction, percentage and decimal number sets as well as nets for solids) Blank sheets of graph or regular paper Number grids Open number lines

For each part of the exam, only the materials indicated above are authorized.

The manipulatives permitted include: abacus, base 10 blocks, pattern blocks, interlocking cubes, unlabelled fraction set, unlabelled geometric shapes, counters, money tray, polydrons, Cuisenaire rods (or equivalent product), geometric solids, tangram.

The use of a calculator is recommended to solve the situational problem.

The memory aid, which serves as a reminder of mathematical concepts and processes, must be handwritten on an $8\frac{1}{2} \times 11$ sheet of paper, front and back. The candidate must prepare the memory aid before the exam by including any information they deem necessary: drawings, definitions, examples of strategies, procedures, number tables, tables showing the relationship between units of measure, etc.

Candidates may bring their own materials or use those provided by the educational institution, based on its resources. It is forbidden for candidates to lend any materials to other candidates or to borrow materials from them. No memory aids will be provided by the educational institution.

Unauthorized materials

Except for a calculator, no digital tool is permitted unless its use has been planned in conjunction with the educational institution responsible for administering the examination.¹

Candidates are also strictly forbidden to have **in their possession** any personal mobile device (smartphone, wireless headphones or earbuds, smartwatch, etc.).

SECTION 3 STEPS IN THE EXAMINATION FOR MATHEMATICS

ADMINISTERING THE EXAMINATION

The Elementary 6 Mathematics exam is administered over three days.

Day 1 – Administration of two situations involving applications

Upon entering the examination room, each candidate receives the booklet containing the first situation involving applications. During the preparation phase, the evaluator reads the task with the candidates before they begin to work. The evaluator can clarify or explain any non-mathematical terminology, as needed. The time allotted to the preparation phase may vary according to the candidates' needs.

During the performance phase, candidates have 30 minutes to carry out the task, taking care to show their reasoning in their booklet as well as their results or answers. The evaluator may give them roughly 15 additional minutes to allow them to complete the task. Each situation involving applications is carried out without interruption.

Candidates then receive the booklet containing the second situation involving applications. This task is carried out in the same manner as the first.

The situations involving applications present different contexts. These situations involving applications enable candidates to:

- choose and apply the required mathematical concepts and processes and show work that clearly demonstrates their reasoning
- use mathematical arguments to justify a statement, check a result or procedure, take a position, provide a critical assessment or convince others

Examples of two situations involving applications are provided on pages 7 to 14.

¹ The use of certain digital tools (e.g. an application with features equivalent to those permitted for a calculator) could be authorized under certain conditions but must be planned in conjunction with the educational institution responsible for administering the examination, either at the start of the school year or, in the case of homeschooling, when the learning project is implemented.

Day 2 – Administration of the situational problem

Upon entering the examination room, each candidate receives a copy of the Reference Document, which contains the description of the situational problem, and a copy of the Student Booklet, in which they will show all their work and results.

During the preparation phase, the evaluator reads the task with the candidates before they begin to work. The evaluator can clarify or explain any non-mathematical terminology, as needed. The time allotted to the preparation phase may vary according to the candidates' needs.

During the performance phase, candidates have 2 hours to carry out the task. The evaluator may give them roughly 30 additional minutes to allow them to complete the task.

Each phase of the situational problem is carried out without interruption.

The situational problem must meet all of the following conditions:

- The situation involves having the candidates choose the required mathematical concepts and processes.
- The procedure required to solve the problem is not immediately obvious, since the candidates themselves must determine how to combine the concepts and processes covered in the Mathematics program.
- The situation involves the use of various comprehension, organization, solution, validation and communication strategies.
- The instructions do not indicate the procedure to be followed, or the strategies or concepts and processes to be used.

An example of a situational problem is provided on pages 15 to 22.

Day 3 – Administration of one situation involving applications and the Question Booklet

Upon entering the examination room, each candidate receives the booklet containing the third situation involving applications. They carry out the task as described for the first two situations involving applications.

Then, each candidate receives a Question Booklet consisting of two parts. During the preparation phase for each part of the Question Booklet, the evaluator reads the task with the candidates before they begin to work. The evaluator can clarify or explain any non-mathematical terminology, as needed. The time allotted to the preparation phase may vary according to the candidates' needs.

Part A of the Question Booklet consists of one question involving 4 operations requiring candidates to do mental arithmetic. Each operation is worth 1 mark, for a total of 4 marks. The operations are displayed on a visual medium one after the other. The evaluator reads the first operation twice. The candidate has 10 seconds to perform the mental computation and then writes the result in their booklet. The same process is repeated for the other three operations. This part of the examination takes roughly five minutes to complete.

In Part B, the candidate answers 18 multiple-choice or short-answer questions by writing their answers in their booklet. Each question is worth 2 marks, for a total of 36 marks.

Candidates have 60 minutes to complete the Question Booklet. The evaluator may give them roughly 15 additional minutes to allow them to complete the task. The Question Booklet is administered without interruption.

The Question Booklet is designed to evaluate the candidate's knowledge and understanding of mathematical concepts and processes as well as their ability to apply combinations of mathematical concepts and processes they have learned.

Only the answers to the questions in the Question Booklet are evaluated. No marks are awarded for the work involved in arriving at the answer.

Examples of questions that could be included in the Question Booklet are provided on pages 23 to 27.

MARKING

Marking is carried out using the Administration and Marking Guide and the ministerial rubrics provided to the evaluators. These rubrics are provided in Appendices I and II.

SECTION 4 EXCERPTS FROM MINISTERIAL EXAMINATIONS FOR MATHEMATICS

SITUATIONS INVOLVING APPLICATIONS

There are two types of situations involving applications. In the first type of situation (Example 1), the candidate chooses and applies the required mathematical concepts and processes and shows work that clearly demonstrates their reasoning. In the second type of situation (Example 2), the candidate uses mathematical arguments to justify a statement, check a result or procedure, take a position, provide a critical assessment or convince others.

Example 1

The cover page illustrates the context of the situation involving applications.

Stage Props



Last Name: _____ First Name: _____

Class: _____ School: _____

The second page presents the situation involving applications.



Stage Props

Bruno, the circus ringmaster, has a chest that holds all his stage props.

There are 24 stage props in his chest: hats, capes and bow ties.

Of the stage props in Bruno's chest:

- $\frac{1}{3}$ of the props are hats
- $\frac{3}{8}$ of the props are capes
- the rest of the props are bow ties

For each show, Bruno uses a new combination of props that include a hat, a cape and a bow tie.

Bruno does 12 shows each week.

How many weeks can Bruno do his shows for without using the same combination of props, which include a hat, a cape and a bow tie?

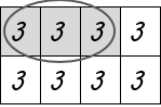
On the third page, the candidate shows their reasoning and writes their answer.



Stage Props

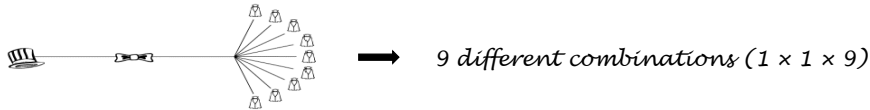
The following example shows reasoning that could be used to solve this problem.

The number of props in the chest

Number of hats	Number of capes	Number of bow ties
$\frac{1}{3}$ of 24 props	$\frac{3}{8}$ of 24 props	$24 - (8 + 9)$
$24 \div 3 = 8$		$24 - 17$
8 hats	9 capes	7
		7 bow ties

The number of possible combinations

For 1 hat, 1 bow tie and 9 capes:



1 hat, 7 bow ties and 9 capes $\rightarrow 1 \times 7 \times 9 = 63 \rightarrow 63$ combinations

8 hats, 7 bow ties and 9 capes $\rightarrow 8 \times 63$

$$\begin{array}{r} 63 \\ \times 8 \\ \hline 504 \end{array} \rightarrow 504 \text{ different combinations}$$

The number of weeks

$$504 \div 12$$

$$\begin{array}{r} 42 \\ 12 \overline{) 504} \\ \underline{-48} \\ 24 \\ \underline{-24} \\ 0 \end{array} \quad 42 \text{ weeks}$$

Bruno can do his shows for 42 weeks without using the same combination of props, which include a hat, a cape and a bow tie.



Stage Props



Evaluation Criteria

- You chose the appropriate information and mathematical processes.
- You applied the required concepts and processes correctly.
- You showed all your work and it is clear.
- You indicated how many weeks Bruno can do his shows for without using the same combination of props, which include a hat, a bow tie and a cape.

Example 2

The cover page illustrates the context of the situation involving applications.

More Valuable Than Gold



Last Name: _____ First Name: _____

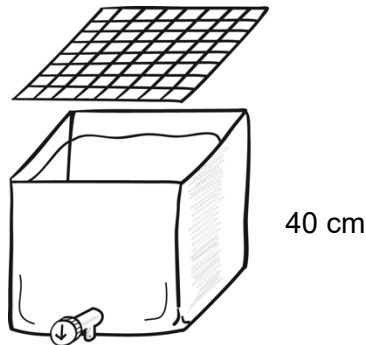
Class: _____ School: _____



More Valuable Than Gold

After participating in a science fair, Anthony decides to work on a water conservation project. He wants to sell small water collectors at an affordable price.

The following diagram shows the water collector he has designed. It is in the shape of a cube, and its top is made of wire netting.



Two companies, which make objects out of recycled plastic, can make his water collector. They provide the tops free of charge.

The table below shows how much it would cost each company to manufacture Anthony's water collector.

Water Collector	
Company	Manufacturing Cost
AllPlastic	\$22 for 1 water collector
GoPlastics	\$0.26 for 100 cm^2 of plastic

Which company's manufacturing cost is the lower?

Use mathematical arguments to explain why.

On the third page, the candidate shows their reasoning and writes their answer.

They justify their answer by using appropriate mathematical arguments.



More Valuable Than Gold

The following example shows reasoning that could be used to solve this problem.

The area of a water collector

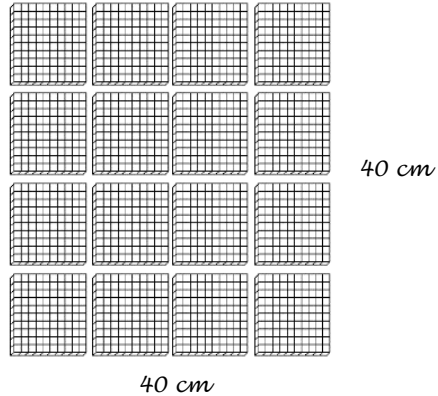
For 1 face of the cube:

$$40 \text{ cm} \times 40 \text{ cm} = 1\,600 \text{ cm}^2$$

The water collector has 5 faces:

$$5 \times 1\,600 \text{ cm}^2$$

$$\begin{array}{r} \\ \\ \\ \\ \times \\ \hline 8\,000 \end{array} \longrightarrow 8\,000 \text{ cm}^2$$



The number of 100 cm² in 8 000 cm²

$$8000 \div 100 = 80 \longrightarrow 80$$

Cost charged by GoPlastics to manufacture the water collector

$$80 \times \$0.26$$

$$\begin{array}{r} \\ \\ \\ \\ \times \\ \hline 20.80 \end{array} \longrightarrow \$20.80$$

The company with the lower manufacturing cost is:

AllPlastic

GoPlastics

Use mathematical arguments to explain why.

Here are two **examples** of rigorous mathematical arguments:

• GoPlastics, because $\$20.80 < \22 .

• GoPlastics, because the cost is \$1.20 less than the cost charged by AllPlastic.

The fourth page presents the evaluation criteria.



More Valuable Than Gold



Evaluation Criteria

- You chose the appropriate information and mathematical processes.
- You applied the required concepts and processes correctly.
- You showed all your work and it is clear.
- You indicated the company with the lower manufacturing cost.
- You used mathematical arguments to explain your answer.

SITUATIONAL PROBLEM

The candidate receives two documents:

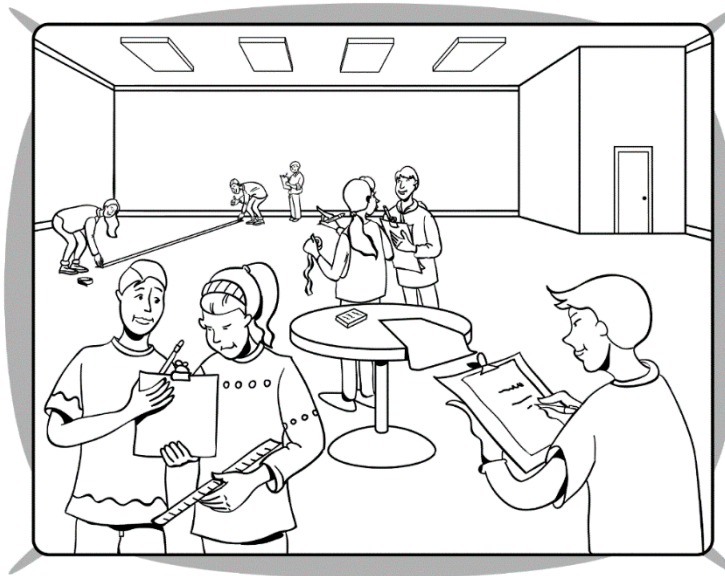
- The Reference Document, which contains the description of the situational problem and all the information required to solve it.
- The Student Booklet, in which the candidate shows all their work and results.

Example of a Reference Document

The cover page illustrates the context of the situational problem.

REFERENCE DOCUMENT

Detectives in Training



Last Name: _____ First Name: _____

Class: _____ School: _____

This page and the following page present the situational problem to be solved.

The staff at your school has organized a week of activities with the theme of “detectives.” During this week, the students will be participating in a *Detectives in Training* day. Students will visit 6 activity zones in a large room in a community centre.

You must:

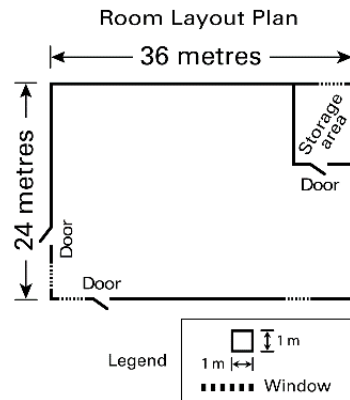
- propose a layout plan for the 6 activity zones in the room
- fill out the planning sheet
- determine the materials needed for certain zones

LAYOUT OF THE 6 ACTIVITY ZONES IN THE ROOM

The dimensions of the room are 24 m by 36 m.

The room layout plan is on page 4 of the Student Booklet (page 21 of this document).

The space for each activity zone must be rectangular with sides that measure at least 4 m.



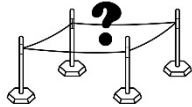
The first 5 activity zones

The boundaries of the first 5 zones are formed by sticking strips of tape on the floor.

There must be a space of at least 2 m to allow people to move from one zone to another.

Activity zone	Characteristics to be taken into account when setting up the first 5 activity zones
Mission Zone	<ul style="list-style-type: none"> • This zone takes up $\frac{1}{12}$ of the area of the room. • The two doors to the room are in this zone.
Analysis Zone	<ul style="list-style-type: none"> • The area of this zone is equal to $\frac{3}{5}$ of the area of the Mystery Zone, which is 180 m². • This zone has two windows.
Research Zone	<ul style="list-style-type: none"> • The area of this zone is equal to $\frac{1}{3}$ of the area of the Analysis Zone.
Video Zone	<ul style="list-style-type: none"> • This zone takes up the same area as the Research Zone, but its dimensions are different.
Lab Zone	<ul style="list-style-type: none"> • The perimeter of this zone is 24 m, and its area is 32 m².

The Mystery Zone

Activity zone	Characteristics to be taken into account when setting up the Mystery Zone
Mystery Zone	<ul style="list-style-type: none"> • This zone is rectangular. Its area is 180 m², and one of its sides measures 15 m. • Rope will be used to form the boundaries of the space used for this zone. • Posts will be placed on each of the 4 corners of the zone so that rope can be strung between the posts. You will need to determine the length of the rope required to stop students from entering this zone. • There must be a space of <u>at least</u> 2 m to allow people to walk around the outside edge of this zone. 

DETERMINING THE MATERIALS NEEDED

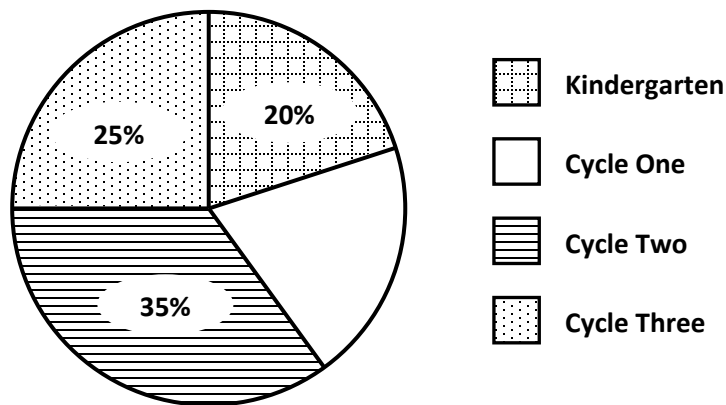
Mission Zone

1 logbook will be needed for each student.

The logbooks are different for each cycle.

There are 105 students in Cycle Three.

Distribution of students by cycle



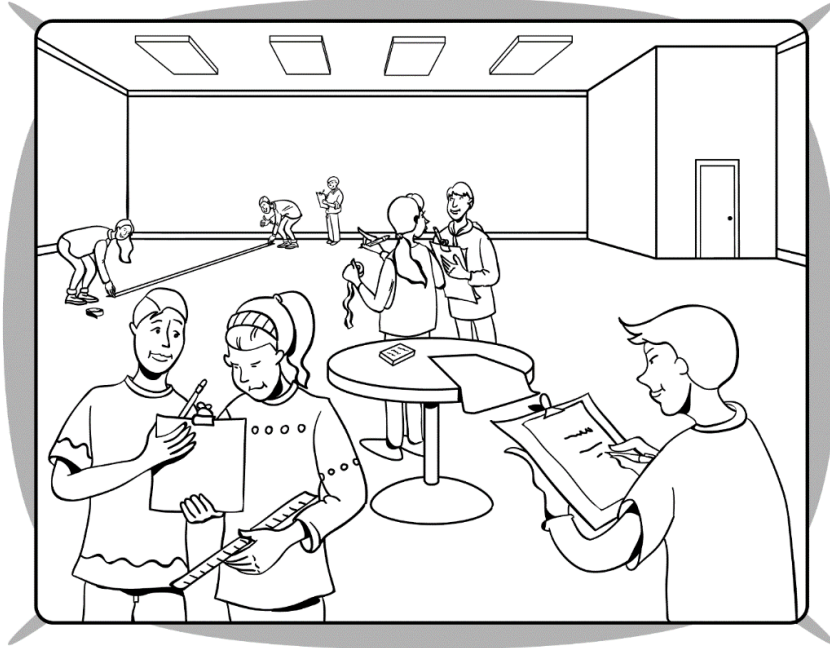
Research Zone

Detective in Training certificates will be given to students who successfully complete a mission.

It is expected that 65% of the students at the school will get a certificate.

The certificates are sold in packs of 50.

Detectives in Training



Last Name: _____ First Name: _____

Class: _____ School: _____

The second page presents the evaluation criteria and the authorized materials.

Evaluation Criteria

The following criteria will be used to evaluate your ability to solve the situational problem entitled *Detectives in Training*.

You understood the situational problem

You used the information in the Reference Document to:

- propose a layout plan for the 6 activity zones in the room
- fill out the planning sheet
- determine the materials needed for certain zones

You used the required concepts and processes

- You chose the appropriate concepts and processes.
- Your calculations are correct.

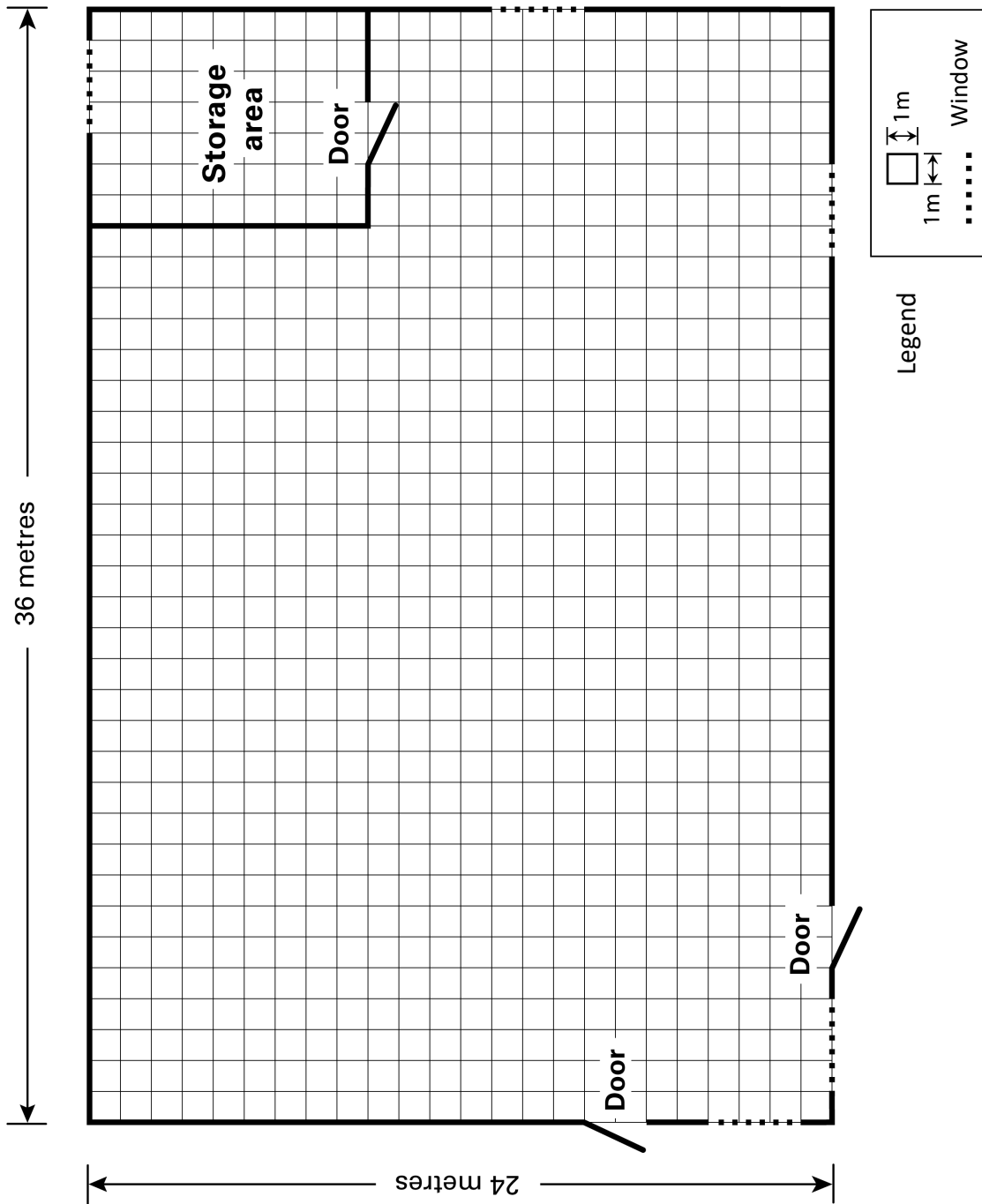
You showed all your work clearly and correctly in the Student Booklet

- Your work is clear and complete.
- You wrote down the operations that you performed on a calculator.
- You provided the information required on pages 6 and 7 (pages 21 and 22 of this document).

MATERIALS PERMITTED

- The use of a calculator is allowed and recommended.
- The use of a memory aid and manipulatives is allowed.

Room Layout Plan



PLANNING SHEET

Mission Zone

Dimensions: _____ m by _____ m

Area: _____ m²

Number of logbooks

Kindergarten: _____

Cycle One: _____

Cycle Two: _____

Cycle Three: 105

Video Zone

Dimensions: _____ m by _____ m

Area: _____ m²

Lab Zone

Dimensions: _____ m by _____ m

Area: 32 m²

Analysis Zone

Dimensions: _____ m by _____ m

Area: _____ m²

Research Zone

Dimensions: _____ m by _____ m

Area: _____ m²

Number of packs of certificates: _____

Mystery Zone

Dimensions: _____ m by 15 m

Area: 180 m²

Length of the rope: _____ m

QUESTION BOOKLET

Examples of mental computation questions in Part A of the Question Booklet

On the visual medium, the candidate sees: Calculate 98×5 .

The evaluator reads: "Calculate ninety-eight times five."

Answer: 490

On the visual medium, the candidate sees: Calculate $4.2 \div 7$.

The evaluator reads: "Calculate four and two tenths divided by seven."

Answer: 0.6

Examples of questions in Part B of the Question Booklet

MULTIPLE-CHOICE QUESTIONS

The candidate must circle only one answer from among the choices indicated.

Example 1

Circle the number that can be divided by 3 and by 4 without a remainder.

a) 486

b) 634

c) 732

d) 944

Example 2

Which equality relation is FALSE?

a) $16 = 2^4$

b) $5^2 = 2^5$

c) $3^2 = 9$

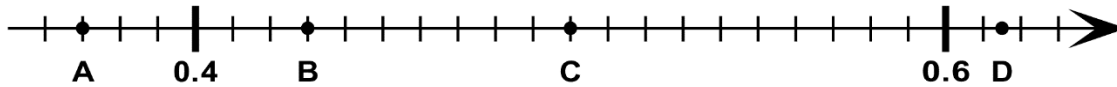
d) $10^3 = 1\ 000$

SHORT-ANSWER QUESTIONS

The candidate writes one or more answers in the space(s) provided, using a number, a letter, a word or an expression, as the case may be.

Example 1

On the number line below, determine the four numbers indicated by a point.



The numbers are:

A: 0.37

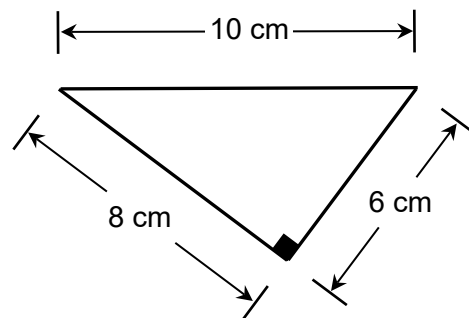
B: 0.43

C: 0.5

D: 0.615 (all decimals from 0.614 to 0.616)

Example 2

Here is a triangle.



True or false?

a) It is an isosceles triangle.

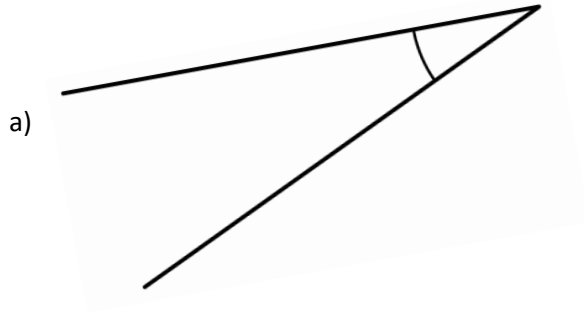
Answer: False

b) It is a right triangle.

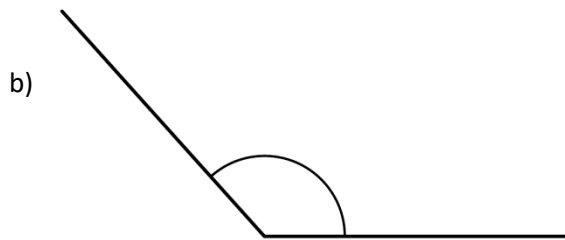
Answer: True

Example 3

Determine the measure of the following angles.



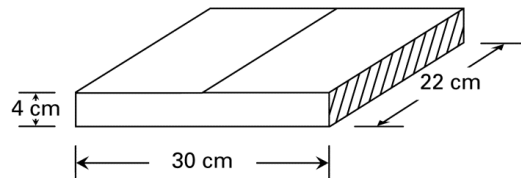
Measure of angle: 25 °



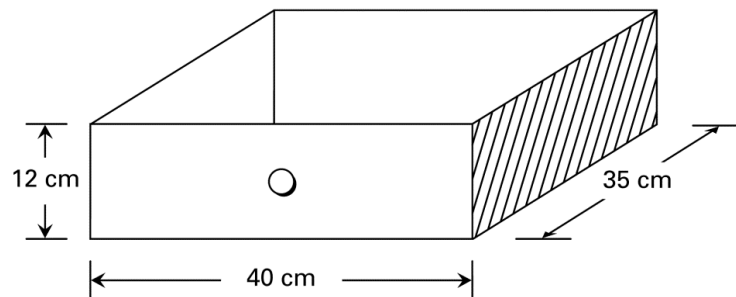
Measure of angle: 132 °

Example 4

Clara has a rock collection. She puts her rocks in boxes that look like this one:



Clara wants to store the boxes containing her rock collection in a drawer of her desk. The dimensions of the drawer are:



What is the maximum number of boxes that she will be able to fit into the drawer?

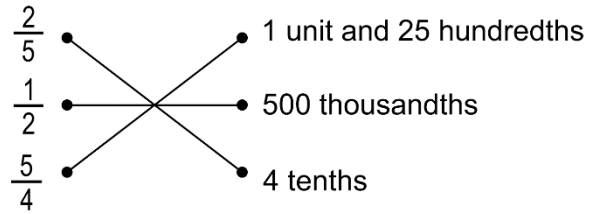
Answer: 3 boxes

Example 5

Match each expression in the left-hand column with the equivalent expression in the right-hand column.

- $\frac{2}{5}$ • • 1 unit and 25 hundredths
- $\frac{1}{2}$ • • 500 thousandths
- $\frac{5}{4}$ • • 4 tenths

Answer



Example 6

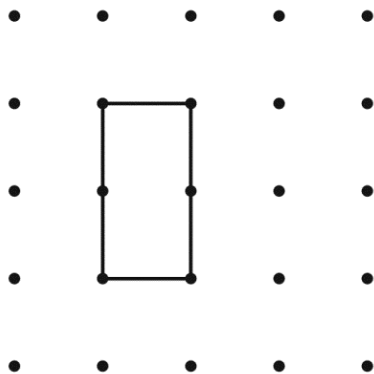
Rebecca ran 7 times around a track that measures 400 m.

How many km did she run?

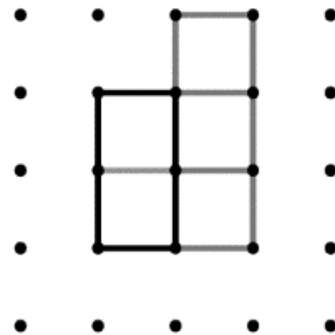
Answer: Rebecca ran 2,8 km.

Example 7

The rectangle below represents $\frac{2}{5}$ of an integer. Complete the following drawing so that it represents the integer.



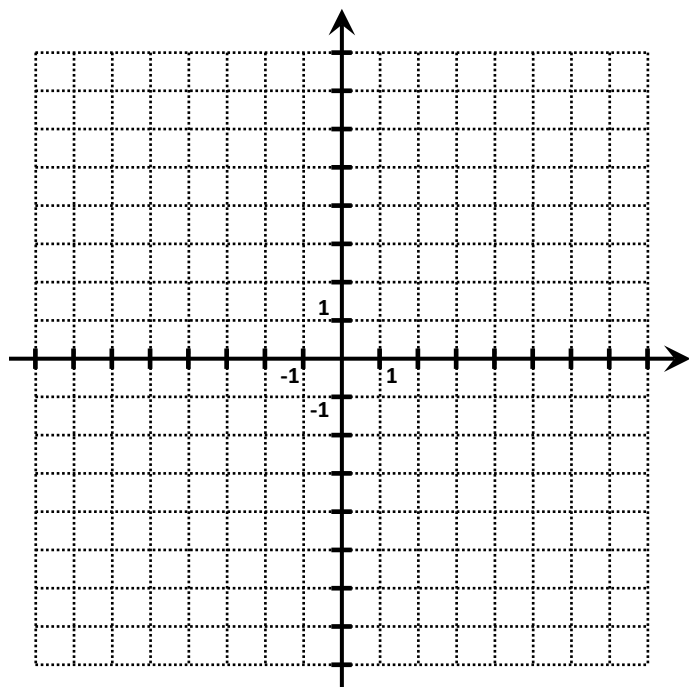
Example of an answer



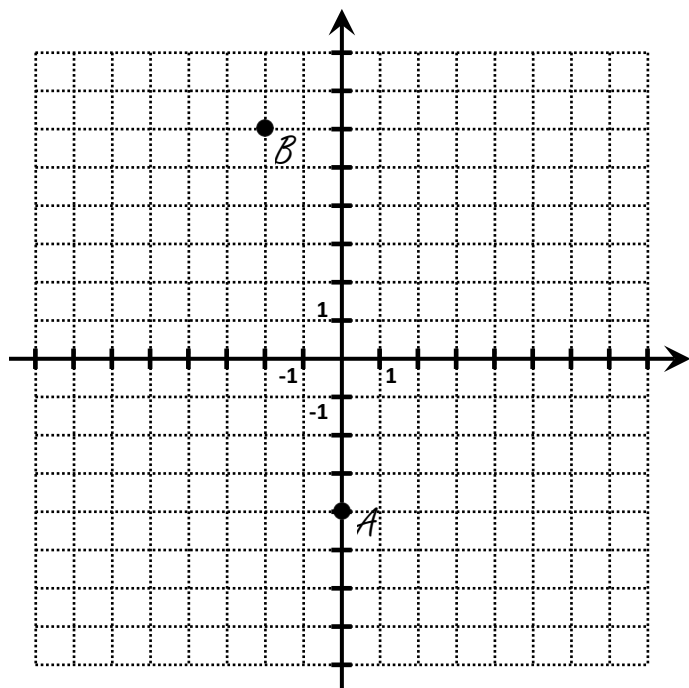
Example 8

Plot points A and B in the Cartesian plane below.

A (0, -4) B (-2, 6)



Answer



**APPENDIX I RUBRIC FOR THE COMPETENCY TO SOLVE A SITUATIONAL PROBLEM RELATED TO MATHEMATICS
ELEMENTARY CYCLES TWO AND THREE**

		OBSERVABLE INDICATORS				
		LEVEL A	LEVEL B	LEVEL C	LEVEL D	LEVEL E
EVALUATION CRITERIA	Indication (oral or written) that the situational problem has been understood	<p><i>In solving the situational problem, the student . . .</i></p> <ul style="list-style-type: none"> • carries out all the steps • takes the relevant information and all the constraints into account • may need minor assistance to clarify some aspects of the situational problem 	<p><i>In solving the situational problem, the student . . .</i></p> <ul style="list-style-type: none"> • carries out the main steps • takes the relevant information and most of the constraints into account • may need assistance to clarify some aspects of the situational problem 	<p><i>In solving the situational problem, the student . . .</i></p> <ul style="list-style-type: none"> • carries out the main steps • takes the main relevant information and some of the constraints into account • needs assistance to clarify several aspects of the situational problem 	<p><i>In solving the situational problem, the student . . .</i></p> <ul style="list-style-type: none"> • carries out some of the steps • takes some of the relevant information and few of the constraints into account • needs assistance to clarify most aspects of the situational problem 	<p><i>In solving the situational problem, the student . . .</i></p> <ul style="list-style-type: none"> • begins certain steps, but does not complete them • takes some information into account but is unable to recognize which information is relevant and takes few or none of the constraints into account • needs assistance to clarify all the aspects of the situational problem
	Correct application of the concepts and processes required to produce an appropriate solution	<ul style="list-style-type: none"> • uses the required mathematical concepts and processes • presents a correct solution or one with few minor mistakes 	<ul style="list-style-type: none"> • uses most of the required mathematical concepts and processes • presents a solution with some minor mistakes or few conceptual or procedural errors 	<ul style="list-style-type: none"> • uses the most important mathematical concepts and processes required • presents a solution that contains some conceptual or procedural errors 	<ul style="list-style-type: none"> • uses some of the required mathematical concepts and processes • presents an incomplete procedure that contains conceptual or procedural errors 	<ul style="list-style-type: none"> • uses inappropriate mathematical concepts and processes • presents an inappropriate or largely inappropriate procedure that includes several conceptual or procedural errors
	<p>Explanation (oral or written) of the main aspects of the solution</p> <p>Appropriate explanation (oral or written) of how the solution was validated*</p>	<ul style="list-style-type: none"> • presents a solution consisting of clear and complete work • validates the main steps in the solution and rectifies it, if necessary 	<ul style="list-style-type: none"> • presents a solution consisting of clear work, even though some steps are implicit • validates some of the steps in the solution and rectifies it, if necessary 	<ul style="list-style-type: none"> • presents a solution consisting of incomplete or unclear work • makes sure the main steps in the situational problem are completed and validates certain operations 	<ul style="list-style-type: none"> • shows work consisting of confusing and isolated elements • makes very little effort to review the work shown 	<ul style="list-style-type: none"> • shows little work • makes no effort to review the work shown

* The student may be provided with feedback on this criterion, but the criterion must not be considered when determining the student's mark.

**APPENDIX II RUBRIC FOR THE COMPETENCY TO REASON USING MATHEMATICAL CONCEPTS AND PROCESSES
ELEMENTARY CYCLES TWO AND THREE**

		OBSERVABLE INDICATORS				
		LEVEL A	LEVEL B	LEVEL C	LEVEL D	LEVEL E
EVALUATION CRITERIA	Appropriate analysis of a situation involving applications	<ul style="list-style-type: none"> Identifies all the elements and actions that make it possible to meet the requirements of the situation Chooses the mathematical concepts and processes that make it possible to meet the requirements of the situation efficiently 	<ul style="list-style-type: none"> Identifies most of the elements and all the actions that make it possible to meet the requirements of the situation Chooses the mathematical concepts and processes that make it possible to meet the requirements of the situation appropriately 	<ul style="list-style-type: none"> Identifies the elements and actions that make it possible to meet the main requirements of the situation Chooses the mathematical concepts and processes that make it possible to meet the main requirements of the situation 	<ul style="list-style-type: none"> Identifies elements and actions that make it possible to partially meet some of the requirements of the situation Chooses mathematical concepts and processes that make it possible to partially meet some of the requirements of the situation 	<ul style="list-style-type: none"> Identifies elements and actions that have little or no connection to the requirements of the situation Chooses mathematical concepts and processes that have little or no connection to the requirements of the situation
	Appropriate application of the required processes	<ul style="list-style-type: none"> Appropriately applies the concepts and processes needed to meet the requirements of the task and makes no mistakes in doing so 	<ul style="list-style-type: none"> Appropriately applies the concepts and processes needed to meet the requirements of the task, and makes a few minor mistakes 	<ul style="list-style-type: none"> Applies some of the required concepts and processes, but makes one conceptual or procedural error,* or makes several minor mistakes 	<ul style="list-style-type: none"> Applies some of the required concepts and processes, but makes two conceptual or procedural errors,* or makes one conceptual or procedural error* regarding a key concept associated with the task 	<ul style="list-style-type: none"> Applies some concepts and processes, but makes several conceptual or procedural errors,* or applies inappropriate concepts and processes
	Correct justification of actions or statements by referring to mathematical concepts and processes	<ul style="list-style-type: none"> Presents a clear and complete line of reasoning Uses rigorous mathematical arguments when required to support actions, conclusions or results 	<ul style="list-style-type: none"> Presents a clear line of reasoning even though some of its elements are implicit Uses appropriate mathematical arguments when required to support actions, conclusions or results 	<ul style="list-style-type: none"> Presents a line of reasoning consisting of incomplete or unclear elements Uses insufficiently detailed mathematical arguments when required to support actions, conclusions or results 	<ul style="list-style-type: none"> Presents a line of reasoning consisting of isolated and confusing elements Uses largely inappropriate mathematical arguments when required to support actions, conclusions or results 	<ul style="list-style-type: none"> Presents a line of reasoning that has little or no connection to the situation, or does not show any work Uses mathematical arguments that are erroneous or unrelated to the requirements of the situation

* Students who omit a concept or process are considered to have made a conceptual or procedural error.

