

# aimsweb

Mathematics Concepts and Applications  
Administration and Scoring Guide

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## Overview

<b>Grades</b>	2–12 (Use Grade 8 form for Grades 9–12)
<b>Administration</b>	Paper-pencil; group or individual
<b>Working time</b>	8 minutes (Grades 2–6) 10 minutes (Grades 7–8 [and 9–12])
<b>Scoring</b>	On paper: Use the Answer Key to score the problems, and then enter the item data or the Total Score. Online: Enter item-level scores or the Total Score into AIMSweb.

## Introduction

Mathematics Concepts and Applications (M–CAP) is a brief, standardized test of elements of the typical math curriculum at grades 2 through 8, with national norms for grades 2 through 12. (The norms at grades 9–12 are based on the Grade 8 form.) You can give M–CAP individually, in small groups, or in full-class settings. There are 33 different test forms (probes) for each grade. These probes are intended to be used in the universal screening of all students at the beginning, middle, and end of the school year, and then used for frequent progress monitoring of students identified as at risk. They also may be used for survey-level (off-level) assessment, as explained in *Introduction to aimsweb* (available on the **aimsweb** site).

You must follow all directions carefully to be able to use the normative (national, district, or school) data accurately in making decisions or drawing conclusions about a student's performance. Altering the instructions to students, the presentation of the probes, the time allowed for each probe, or using probes as teaching instruments invalidates any decisions made or conclusions reached about student performance. It is important that you (the examiner) become familiar with these administration directions before administering an M–CAP probe. The Spanish translation of M–CAP Administration Directions is provided in Appendix A.

# Administering and Scoring M–CAP

## Choosing an M–CAP Probe

For universal screening (benchmark testing), use the designated probe for the student's grade and the screening period. There is one probe for each screening period (Probe 1 for fall, Probe 2 for winter, and Probe 3 for spring).

For progress monitoring, use a different M–CAP probe each time. There are two ways to do this.

1. In **aimsweb** version 1.0, the Progress Monitor probe numbers are listed in random order on the Score Entry screen. You may choose a different probe number from the drop-down menu.

In **aimsweb** 2.0, the Assess screen displays the probes that have not been administered to the student, as well as the probes the student has completed.

OR

2. You may administer probes in numerical order.

Use the method that fits your workflow and ensures that you do not inadvertently give a student the same probe twice.

For survey-level assessment, see the guidelines located in the *Introduction to aimsweb*.

## Materials You Will Need

To administer the M–CAP probe, you will need a printed copy of the

- M–CAP Administration Directions; and
- M–CAP probe and Answer Key for each student. The **aimsweb** Manager at your school will download a master copy of the probe and Answer Key from the **aimsweb** site. Photocopy them as needed.

*Please keep the probes and answer keys in a secure place until needed.*

You will also need

- a timer, clock, or watch to monitor administration time; and
- sharpened pencils with erasers.

# General Administration Procedures

Make sure each student has two sharpened pencils with erasers and have them remove everything else from their desks. Make sure that all visual aids in the room that might assist the students in answering mathematical questions are covered or removed prior to testing.

Students may use scratch paper, but they should not need it because they are allowed to write in the test booklets.

Students are *not allowed to use* calculators, cell phones, etc.

Read the M–CAP Administration Directions in bold text aloud to the students. The directions are the same at all grades except for the administration time. For grades 2 through 6, the time is 8 minutes. For grades 7 through 12, the time is 10 minutes.

## Testing Students With Special Accommodations

The general principles governing the use of accommodations in **aimsweb** administration for students with disabilities are described in the *Introduction to aimsweb*. Whenever normative data will be used to interpret performance, it is very important to adhere to the specific guidelines provided for each **aimsweb** measure so that interpretations are accurate. A wider range of accommodations may be used during progress monitoring, as long as the accommodations are used consistently in the instructional program and across the monitoring period.

Like any other test, M–CAP may be inappropriate for some students. For example, M–CAP requires paper-pencil test-taking skills, so using it with students who have severe motor problems may not be appropriate. Because the problems include written text, M–CAP is not appropriate for students who are not proficient in English. M–CAP scores of students with severe reading disabilities should be interpreted with care. Whenever language or reading ability is a concern, it can be informative to compare M–CAP results with M–COMP scores, because the M–COMP tasks require little or no reading.

## Screening With M–CAP

The following accommodations are allowed for M–CAP administration during screening (benchmarking):

- individual or small-group administration;
- enlarging the probe;
- visual aids, such as magnifiers (aids such as templates and straight edges are not permitted);
- special pencil or pencil grip;
- sign language, audio amplification, or repetition of the spoken directions when M–CAP is being introduced; and
- environmental modifications (e.g., special lighting, adaptive furniture).

The following accommodations are not allowed during screening:

- extending the administration time,
- providing feedback during administration,
- providing practice administrations, and
- using calculators.

Reading the problems to the student may be permitted in cases where the student has been formally identified as having a moderate or severe reading disability, and this accommodation is part of the student's instructional program. Any accommodations made during screening must be documented in the student's record.

### **Progress Monitoring With M–CAP**

In addition to the accommodations allowed for screening, other appropriate accommodations (including extending the administration time) may be made during M–CAP progress monitoring as long as

- the accommodations are applied consistently for the student throughout the progress monitoring period, and
- interpretations of the student's performance are not based on normative data.

Document any accommodation made for the student in the **aimsweb** system (under “Program Description”) so that anyone interpreting the report understands the conditions under which progress monitoring was conducted.

Use of a calculator is not recommended for progress monitoring because it changes the nature of the task.



# M-CAP ADMINISTRATION DIRECTIONS

*(These directions are for group administration—adapt as needed for individual administration.)*

Say to the students:

(Grades 2–6) **We’re going to take an 8-minute math test.**

(Grades 7–12) **We’re going to take a 10-minute math test.**

If this is the first administration of M-CAP, you may want to say: **This test is not part of your class grade, but try your best on each problem.**

**Read the problems carefully and work each problem in order. Do not skip around.**

**Some of the problems may be easy, and some will be more difficult. If you do not know how to work a problem, mark it with an X and move on. Once you have tried all of the problems in order, you may go back to the beginning of the worksheet and try to complete the problems you marked. Write the answers to the problems in the blanks. For multiple choice questions, write the letter (A, B, or C) of the correct answer in the blank.**

**You do not have to show your work, but you may if it helps you. Keep working until you have completed all of the problems or I tell you to stop.**

**Do you have any questions?** Answer any questions the students may have.

Distribute the probes to the students, and say: **Here are your tests.**

**Write your name, your teacher’s name, and the date on the first page only in the space provided. Do not start working until I tell you to begin.**

Allow the students time to write their information. When everyone in the class is done, say: **Begin. Start timing.**

Walk around the room to make sure that the students are working the problems in order. If you notice that a student is skipping ahead without attempting each problem, say: **Try to work each problem. Do not skip ahead unless you do not know how to work a problem.**

If a student asks a question or requests clarification, say: **I can’t help you. Work the problem as best you can. If you don’t understand the problem, you may move on to the next problem.**

After 8 minutes (grades 2–6) or 10 minutes (grades 7–12), say: **Stop and put down your pencil.**

Remind them to make sure they have their name, the teacher’s name and the date written on their probe in the correct place. Then, collect the probes (and any scratch paper).



# M-CAP Scoring Directions

## Using the Answer Key

Write the student's name and the date on the Answer Key.

The Answer Key shows the correct answer to each problem and the score points for each correct response. Some problems are worth more score points than others. (See Figure 1.)

- If the response is correct, circle the number of points earned for that item.
- If the response is incorrect or crossed out, circle a score of 0 for that item.
- If the student did not write a response (or only wrote an X), do not assign a score to the item.

### Grade 2, Probe 10 Answer Key

Item No.	Answer	Correct	Incorrect
1.	6	1	0
2.	157, 720	1	0
3.	10	1	0
4.	32	1	0
5.	47	1	0
6.	6	1	0
7.	+	1	0
8.	24, 12	2	0
9.	56, 60	1	0
10.	13	1	0
11.	90	1	0
12.	428, 413	1	0
13.	8, 15	1	0
14.	8, 24, 32	2	0
15.	-	1	0
16.	C	3	0
17.	$\frac{2}{25}$	2	0
18.	5, 9, 1	2	0
19.	1.65	2	0
20.	less	1	0
21.	C, F, E	2	0
22.	7, 8, 2	1	0
23.	4	2	0
24.	137	1	0
25.	8	2	0
26.	1, 15	2	0
27.	5	3	0
28.	$\frac{10}{25}$ or $\frac{2}{5}$	2	0
29.	690	3	0
Total		25	

Figure 1 Example of a Completed Answer Key

## Item Scoring Rules

1. **There may be other correct responses.** The Answer Key includes the most common correct answers for each problem, but there may be other correct answers for some problems. Give credit for any response that is mathematically correct and satisfies the requirement of the problem, even if the form of the response is different from those listed on the Answer Key. For example:

Grade 7, Item 1 (“Write these numbers in increasing order”) presents a mix of whole numbers, negative numbers, fractions, and decimals. If the student converts a number to a different form (such as converting a common fraction to a decimal), give credit as long as the conversions and the sequence are correct.

2. **Multi-part problems must be completely correct to obtain credit.** Score a problem that has more than one part as correct *only* if *all parts* of the problem are correct. If any part is missing or incorrect, the score for the problem is 0.
3. **Give credit for a correct response, regardless of where it is written in the problem box.** The response does not need to be written on the blank line. As long as the response is clear and correct, give credit. For problems that have multiple blanks, give credit if it is obvious the student meant to put the answers near the correct blanks.
4. **Score according to the final answer.** The correctness or incorrectness of the work done to get to the final answer does not affect the score.
5. **Do not give credit for a crossed-out correct response.**
6. **Do not penalize for poor legibility.** If you can determine what the student intended, give credit for a correct response even if the writing is poor or messy. Rotation or reversal of numerals is acceptable as long as the intent is clear (e.g., if the correct answer is 6 and the student wrote 9, do not give credit even though it might have been a rotation).
7. **If the student provides an incorrect symbol or unit of measurement, or places a correct symbol or unit of measurement in a wrong location relative to the numerical part of the response, score 0.** There is no penalty for writing a correct symbol or unit of measurement in the correct location even though it is in addition to the symbol or unit of measurement already printed on the probe.

*Note.* For Grade 3, Item 13 (clock task), the student must not use any other symbol except a colon (:). The comma is used to separate the parts of a multi-part response in the Answer Key.

8. **Rounding is incorrect unless the problem requires it.**

# Entering Scores in the aimsweb System

The options and procedures for entering M–CAP scores depend on which version of the **aimsweb** software you are using (1.0 or 2.0).

## aimsweb 1.0

You have two ways to enter scores. Enter item-level information (correct, incorrect, or skipped) and the system automatically calculates the number of correct and incorrect responses and the Total Score, or sum correct and incorrect items on the Answer Key and enter the Total Score in the system. Entering item-level information enables you to generate the Class-at-a-Glance and Student Instructional Planning Reports. For more information on these reports, see the Overview: **aimsweb** Math Instructional & Placement Recommendation Reports.

For either method:

1. Click on the My Classes tab for teachers or click the Scoring tab for managers.
2. Click on the Mathematics tab from the gray tabs across the top.
3. Click the circle for M–CAP.
4. Click Scores to open the classroom list of students.

To enter the student's Total Score, click Item Responses. Enter the Total Score in the open box and click Save to finish. See the **aimsweb Software Guide** for detailed instructions on how to enter scores.

## aimsweb 2.0

In the initial release of **aimsweb** 2.0, only Total Score entry is available; item-level entry will be added as soon as possible. At the Score screen, click on the drop-down menus to select the type of assessment (Benchmarking or Monitoring), the Measure (M–CAP), and the time period. Then enter the Total Score in the open box. See the **aimsweb Software Guide** for detailed instructions on how to enter scores.



# M-CAP ADMINISTRATION DIRECTIONS

These directions are for group administration—adapt as needed for individual administration.

Say to the students:

(Grades 2–6) **Vamos a tomar una prueba de matemáticas que dura ocho minutos.**

(Grades 7–12) **Vamos a tomar una prueba de matemáticas que dura diez minutos.**

If this is the first administration of M-CAP, you may want to say: **Esta prueba no es parte de su calificación en la clase, pero intenten resolver cada problema lo mejor que puedan.**

**Lean los problemas detenidamente y resuelvan cada uno en el orden en que aparecen. No se salten ninguno.**

**Hay algunos problemas que serán fáciles, y otros que serán más difíciles. Si no saben cómo resolver un problema, márquenlo con una X y continúen con el siguiente. Una vez que hayan intentado resolver todos los problemas en el orden en que aparecen, pueden regresar al principio de la hoja de trabajo y volver a intentar aquellos que marcaron con una X. Escriban las respuestas a cada problema en los espacios en blanco. Para las preguntas de opción múltiple, escriban la letra (A, B o C) en el espacio en blanco que corresponde a la respuesta correcta.**

**No tienen que mostrar su trabajo, pero si les ayuda entonces pueden hacerlo. Continúen trabajando hasta que resuelvan todos los problemas o hasta que yo les diga que paren.**

**¿Tienen alguna pregunta?** Answer any questions the students may have.

Distribute the probes to the students, and say: **Aquí están sus pruebas.**

**Escriban su nombre, el nombre del maestro(a) y la fecha en el espacio indicado en la primera página solamente. No empiecen a trabajar hasta que yo les diga.**

Allow the students time to write their information. When everyone in the class is done, say: **Empiecen. Start timing.**

Walk around the room to make sure that the students are working the problems in order.

If you notice that a student is skipping ahead without attempting each problem, say:

**Intenten resolver cada problema. No se adelanten a menos que no sepan resolver algún problema.**

If a student asks a question or requests clarification, say: **No te puedo ayudar. Intenta resolver cada problema lo mejor que puedas. Si no entiendes el problema, puedes continuar al siguiente.**

After 8 minutes (grades 2–6) or 10 minutes (grades 7–12), say: **Paren y pongan su lápiz sobre la mesa.**

Remind them to make sure they have their name, the teacher's name and the date written on their probe in the correct place. Then, collect the probes (and any scratch paper).