**Math MCAS**
**Tips and Strategies**

There are 3 types of questions on the Math MCAS, given in two Sessions:

- o 32 Multiple Choice
- o 4 Short Answer
- o 6 Open Response

## I. Overall Test Strategies:

***Skim the Test****:* At the beginning of each session, take a quick glance through your booklet and see how many problems you have, and what kind of problems they are. It's good to know what to expect throughout the session.

***Take the Test Backwards:*** The Open Response questions at the end of the test are worth 4 points each while the multiple choice and short answer questions are worth 1 point each. While it is important that you answer all questions, research has shown that students maximize points on the Open Response questions when they are done first - when you are fresh and starting the test. Revisit these problems when you do a final check of your test as the multiple choice and short answer questions may give you clues to concepts you had trouble with.

***The Two-Pass System:*** Don't get bogged down with one test item. Some questions will be easier for you than others. The best way to be sure you get the questions you really do know correct is to use the Two-Pass System:

- o First go through the test, answering just the multiple choice and short answer questions you can do fairly easily. Read all questions, but don't spend too much time on any that seem particularly difficult. Skip those *for now*. This is your *first pass*.

- o Then take a quick brain break and prepare to do some open response questions. Spend a good amount of time on each open response writing down something for every part of every question.

- o After you are satisfied that you have done your best on the open response, take another quick brain break, then go back for a second pass and try the harder multiple choice and short answer questions you haven't done yet.

- o Go back through the test and be sure you have answered every single question.

## II. Multiple Choice Strategies

***Process of Elimination:*** Sometimes the best way to solve a problem is to determine which answers are wrong, rather than to find the right answer. Eliminate as many as you can, and if you need to, then guess between the remaining answers.

Example:
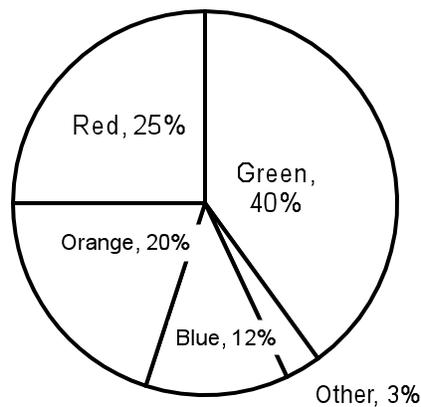


The chart above shows the percentage of each color gumball sold during a certain month. If there were 400 gumballs sold that month, how many green gumballs were sold?

    A. 40
    B. 110
    C. 160
    D. 200

*Process of Elimination* - According to the chart, almost half of the gumballs sold were green. Since there were 400 sold, then almost 200 were green. 40 and 110 are too small, and 200 is too big. That leaves 160 as the only answer that makes sense.

***Using the Answer Choices:*** Often with the multiple choice questions on MCAS, you can try each answer choice to see which one works.

Example:

Deborah decided to mow lawns to earn the $280 she needs for a school orchestra trip. If she earns $18 per lawn, what is the **minimum** number of lawns she needs to mow to earn the money for the trip?

       **A.** 14
       **B.** 15
       **C.** 16
       **D.** 17

*Use the Answer choices:*

If she mows 14 lawns, then she earns 14 x $18 or $252.  Not enough
If she mows 15 lawns, then she earns 15 x $18 or $270.  Not enough
If she mows 16 lawns, then she earns 16 x $18 or $288. Enough.
Since the question asked to find the minimum number of lawns, then you've found the answer.  17 would also earn her enough, but it's not the minimum.

***Ballparking***: Even if you don't really know how to do the problem, you may be able to estimate *about* what the answer should be.  Then eliminate any answers that are "out of the ballpark" or just much too large or small to be correct.

***Write it down:*** don't try to do the work in your head.  You are allowed to use the test book for scrap paper.  Write down your work - it's how you can best keep track of what you're doing, not go around in circles and avoid careless errors.

***Take bite-sized pieces:*** Many of the questions are long word problems.  It's easy to get confused if you try to solve the problem all at once.  The best way to approach these items is by reading each sentence one at a time, and underlining the important information.  As soon as you can solve one piece of the problem, solve it.  Then add on the next piece, until you have the final answer.

Example:

Janice delivers 5 papers every day from Monday through Friday, and 8 papers on Saturday and Sunday.  If she works for 6 weeks, how many papers will she deliver?
    A.  150
    B.  240
    C.  246
    D.  254

*One step at a time:*  First step:  5 papers Monday through Friday = 25 per week.
8 on Saturday or Sunday = another 16 per week.  New weekly total = 41.  If she works for 6 weeks, then she will deliver 6 x 41 or 246 papers, so the correct answer is C.


*\*\*Just because your answer appears as a choice, it doesn't mean the answer is correct. MCAS writers anticipate what mistakes students might make, and put those answers as choices.  It sounds mean, but it's actually considered a "good test question" if the answer choices listed can be arrived at by making common mistakes.*

### III.   Grading

## Multiple Choice & Short Answer Questions:

These are either right, and you get one point, or they are wrong and you get no points. There is no partial credit.

The best strategy for a Short Answer you don't know how to do is to Estimate what the answer should be and write down a guess.

## Open Response Questions:

Open Response Questions are worth 4 points.  Basically it's scored like this:
- o  You get a 4 if you show all work and get it all right
- o  You get a 3 if you show all the right steps but you make a mistake somewhere and don't get exactly the right answer
- o  You get a 2 if you show the right steps sometimes, but not always
- o  You get a 1 if somewhere on the page you have a correct calculation whether you show the work or not
- o  You get a 0 if your response is blank, totally incorrect or totally irrelevant.

The strategy for open response is simple:

Show all work

Label all parts

Write something down that is somehow relevant, even if you don't know how to do the question

Write down what you don't know:  things like "If I knew the length of the side, then I could find the area"

# BE CONFIDENT – YOU KNOW THIS STUFF AND CAN DO THIS!!!