

New Grading Procedures for the 2020-21 MSHSML Season

In order to make grading easier, **all answers to this year's problems will be integers!**

The expression “**determine exactly,**” which in past years has been used to require a particular format for an answer, will **not** be used in this year's problem sets.

However, as most good math problems do not always lend themselves to integer answers, two expressions have been used extensively throughout this year's problem sets. The first covers irrational answers and the second covers rational (non-integer) answers.

1) “... can be written as $a\sqrt{b}$, where **b is square-free. Determine the value of $a + b$** ” For b to be “square-free”, it cannot have factors which are square numbers (other than 1). For example, as in the past, an answer of $\sqrt{12}$ would be unacceptable and students would have had to convert it to $2\sqrt{3}$ to receive credit. This year the student must submit the answer 5 to receive credit. (N.B. If \sqrt{b} cannot be simplified, the problem would state “... can be written as \sqrt{b} , where **b is square-free.**”)

2) “... can be written as $\frac{p}{q}$, where **p and q are relatively prime integers. Determine the value of $p + q$.**” For example, as in the past, an answer of $\frac{6}{8}$ would be unacceptable and students would need to simplify it to $\frac{3}{4}$ to receive credit. This year the student must submit the answer 7 to receive credit.

There is area of caution with this type of formatting of which all students should be made fully aware:

Negative Rational Answers Although we all know that $-\frac{p}{q} = \frac{-p}{q} = \frac{p}{-q}$, in order to create a unique answer, all students should be made aware that for this competition, the negative sign **MUST** be assigned to the numerator and **NOT** to the denominator. So if the answer is $-\frac{3}{5}$, the student must submit the answer 2 to receive credit and if the answer is $-\frac{5}{3}$, the student must submit the answer -2 to receive credit.