



Knight Scholar Summer Math

In order to keep our Knight Scholars' minds active during the summer and not relax our mathematical muscles, the math department has concluded that summer practice is needed in the following areas:

12th: Linear, Parabolic, and Systemic Algebraic concepts to include Rational, Radical, and Graphical Applications

Students will complete the problems in the pages that follow in order to complete the summer math assignment. They are expected to complete the packet by the first day of school. It will be the very first grade to start your school year, let's make it a great one!

You must show your "work" (process/strategy) for every problem set. Your answers should include correct units, if applicable. Packets will NOT be accepted without proof of an effective strategy (answer sheets are provided). The expectation is that you know how to complete these types of problems on your own and without the aid of a calculator.

If needed, please consult the following websites for assistance:

www.khanacademy.org

www.patrickjmt.com

www.wolframalpha.com

www.mathisfun.com

MATH
1 + 1 = 2
MAKES YOUR
LIFE ADD UP!

Simply type what you are seeking help with in the search bar to learn more about the concept or to watch a video on it.

Finally, remember that, "Holy Cross Students regard learning as a duty, intellectual perfection as an honor...". Therefore, Knight Scholars never cheat themselves out of being successful by attempting to copy someone else's work. This packet is to help you be ready for the upcoming school year, and help your teachers know what you can do with ease.

Please read the information in regards to the importance of showing work here:

<https://brownmath.com/stfa/showwork.htm>

Have a wonderful summer...that now includes some Holy Cross math!

Please view and perform practice problems on the following sites in the order prescribed and complete the assignment that is explained below for submission to your math teacher on August 15th.

1. <https://www.khanacademy.org/math/algebra2/manipulating-functions/combining-functions/a/introduction-to-combining-functions>
2. <https://www.khanacademy.org/math/algebra2/manipulating-functions/function-composition/v/function-composition>
3. <https://www.khanacademy.org/math/algebra2/manipulating-functions/shifting-functions/v/shifting-functions-examples>
4. <https://www.khanacademy.org/math/algebra2/arithmetric-with-polynomials/adding-and-subtracting-polynomials-review/v/adding-and-subtracting-polynomials-3>
5. <https://www.khanacademy.org/math/algebra2/arithmetric-with-polynomials/multiplying-polynomials-review/v/more-multiplying-polynomials>
6. <https://www.khanacademy.org/math/algebra2/arithmetric-with-polynomials/long-division-of-polynomials/v/polynomial-division>
7. <https://www.khanacademy.org/math/algebra2/radical-equations-and-functions/solving-square-root-equations/v/extraneous-solutions-to-radical-equations>
8. <https://www.khanacademy.org/math/algebra2/radical-equations-and-functions/graphs-of-radical-functions/v/flipping-shifting-radical-functions>
9. <https://www.khanacademy.org/math/algebra2/rational-expressions-equations-and-functions/solving-rational-equations/v/ex-1-multi-step-equation>

Assignment: After you have watched all videos and done all practice problems for each web link, take some time and reflect on three things for each topic. The three things are:

1. How did I feel about this specific topic when I was learning it during the previous school year? How do I feel about it now?
2. What do I know/understand better about it? OR What do I still need clarification on?
3. How could I apply this concept in a real world problem?
 - a. This will require a bit of thought and further research on the internet. If you need help visualizing how this can be applied to a real world problem, then just google: “*THE TITLE OF THE TOPIC*” in the real world”.

To be clear, at the end of this assignment there should be 9 different journal entries...one for each web link topic above. There is no set length for each of the entries, but please know that math teachers will be using a scale that grades on content of reflection and quality of thought process. Therefore, it is advisable to be as explanatory as possible...maybe even using examples of problems in your journal entries. Please submit this journal in a two pocket folder or report cover with a title page that includes your name and grade level on the front.

Grading:

Each journal entry will be graded as outlined below.

100

All three questions are addressed

Each question includes a consistent in depth quality of reflection

Each question is answered beyond a simple declarative statement such as “ Yes, I ...” or No, I...”, but rather explanation is provided as to WHY they feel the way that they do.

Students provide examples to justify their claims.

Students use proper writing style: Opening paragraph, supporting paragraphs, closing
Proofreading for both grammar and spelling is evident.

85

At least 2 questions are addressed

Each question includes a consistent in depth quality of reflection

Each question is answered beyond a simple declarative statement such as “ Yes, I ...” or No, I...”, but rather explanation is provided as to WHY they feel the way that they do.

70

At least 2 of the three questions addressed

Each question is given a superficial reflection...not going in depth to their understanding of the material

Student does not go much beyond simple declarative statements such as “ Yes, I ...” or No, I...” very weak explanations are given as to why they feel the way they do.

60

One question is addressed

Questions are given no reflection whatsoever

Student uses simple declarative statements such as “ Yes, I ...” or No, I...” no explanations are given as to why the student feels the way he or she does.

0

No journal submitted

Please note:

The entire journal will receive a grade based on the average of the individual entry grades.

