

# Honors Astronomy & Astrophysics

## Summer Math Review Assignment

Your summer assignment is intended to help you review the following math topics that are useful in Astro:

- Orders of magnitude
- Scientific notation (including algebraic manipulation of expressions using scientific notation)
- Significant Figures
- Basic trigonometry (just solving right triangles using SOHCAHTOA).
- Logarithms (including algebraic manipulation of expressions using scientific notation).

Please follow these steps:

1. Sign up for Khan Academy if you do not already have an account there.
2. Go to [khanacademy.org/coaches](https://www.khanacademy.org/coaches)
3. Under "add a coach" enter EPFQ5V
4. Now you are in my Math for Astro Summer Review class, which just means I can see how well you did on the exercises listed below. Each of these exercises is preceded by videos that explain how to do these kinds of problems. Take advantage of them if you need to! I understand you may not have done these kinds of problems lately.

The following exercises are required for your summer assignment:

1. <https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-orders-of-magnitude/e/orders-of-magnitude>
2. [https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-computing-scientific-notation/e/multiplying\\_and\\_dividing\\_scientific\\_notation](https://www.khanacademy.org/math/pre-algebra/pre-algebra-exponents-radicals/pre-algebra-computing-scientific-notation/e/multiplying_and_dividing_scientific_notation)
3. [https://www.khanacademy.org/math/arithmetric-home/arith-review-decimals/arithmetric-significant-figures-tutorial/e/significant\\_figures\\_1](https://www.khanacademy.org/math/arithmetric-home/arith-review-decimals/arithmetric-significant-figures-tutorial/e/significant_figures_1)
4. [https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-trig-ratios-intro/e/trigonometry\\_1](https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-trig-ratios-intro/e/trigonometry_1)
5. [https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-solve-for-a-side/e/trigonometry\\_2](https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-solve-for-a-side/e/trigonometry_2)
6. <https://www.khanacademy.org/math/geometry/hs-geo-trig/hs-geo-solve-for-an-angle/e/solve-for-an-angle-in-a-right-triangle>
7. <https://www.khanacademy.org/math/algebra2/exponential-and-logarithmic-functions/solving-exponential-equations-with-logarithms/e/using-logarithms-to-solve-exponential-equations>