

Problem 4: Area in Sexagesimal

The sexagesimal number system, the number system that uses base 60, has been used extensively throughout the history especially in the field of astronomy. We still use it in working with time. Let us practice doing some arithmetic in the sexagesimal system.

Find the area of an equilateral triangle whose height is $\frac{151\sqrt[4]{3}}{2}$. Express your answer as a number in the sexagesimal system in the form $a, b, c, d; e, f$ where the sexagesimal digits a, b, c, d are in the whole part of the number and the digits e, f are in the fractional part.

As always, show your work, fully explain and justify your answer. A solution mainly obtained by computers or calculators will not be accepted.

Posting Date 2/20/2021. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 by e-mail or hard-copy by 4 pm on March 5, 2021. An email submission must be a single pdf file. Hard copy submissions must be dropped in the file holder at my office door (Hayes 319) and must include a time stamp.