AT-Home Question for Final, And An Extra Credit Question
Morally Due TUESDAY May 12

Note: Dead-Cat is THUSDAY MAY 14.

Our final is FRIDAY May 15.

You are WELL ADVISED to do this SOON so that its out of the way while you are studying for your finals.

1. (0 points) What is your name?

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2. (20 points of the Final)

   Prove the following:

   For all c, For all $\mathrm{COL}\colon \mathsf{R}^2 \to [c]$ *there exists three points that are the same color such that the area of the triangle they form is 1.*

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3. (0 points but this is your last extra credit problem, so your last change to impress me.)

   Assume that you already have proven PVDW(ω, ω).

   Prove the following:

   There exists J (for Javier!) such that, for all c, for all COL: $[J] \to [c]$ *there exists* $a, d \geq 1$ *such that*

   $\mathrm{COL}(a) = \mathrm{COL}(a + d^3)$.

   (If you have questions for me about this problem, FIRST read through and UNDERSTAND the slides on Poly VDW.)