Week 5 Friday

Make sure you know your neighbors' names. Then discuss:

Let
$$I = \langle x^2 + 1, y - x^3 \rangle \subseteq \mathbb{R}[x, y]$$
. What is $I \cap \mathbb{R}[x]$?

Once you have a proposed answer, justify carefully — or at least, try to plan out a strategy of proof.

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Monomial Ideals

1. How many radical monomial ideals are there in k[x, y]?

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Follow-up. What about in k[x, y, z]?