## Week 6 Friday

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

Let  $I = \langle x^2 + 1, y - x^3 \rangle \subseteq k[x, y]$ . We proved last week that  $I \cap k[x] = \langle x^2 + 1 \rangle$ . Can you find a quicker proof using Gröbner bases now?

**Buchberger's Algorithm** 

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1. Find a Gröbner basis for the ideal  $I = \langle xy - z, x - yz \rangle$  with respect to lexicographic order. Then sketch a picture of V(I).

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