

# Announcements April 22

- CIOS open: additional dropped quiz for 85% response rate (measured at start of final exam)
- Quiz on 6.3 and 6.4 in class today.
- WebWork 6.5 due Sunday (not graded)
- Review extravaganza on Monday in class; post questions on Piazza using final\_exam tag
- Review on Friday April 29 at 6:30-8:00 in Skiles 154
- Final Exam [Wed May 4 8:00-10:50 \(Sec H\)](#) and [Mon May 2 2:50-5:40 \(Sec J\)](#)
- Office Hours Tue 2-3 and Wed 2-3
- LA Office Hours: Scott Mon 12-1, Yashvi Mon 2-3, Shivang Tue 5-6, Baishen Wed 4-5, Matt Thu 3-4
- Math Lab, Clough 280
  - Regular hours: Mon/Wed 11-5 and Tue/Thu 11-5
  - Math 1553 hours: Mon-Thu 5-6 and Tue/Thu 11-12
  - LA hours: Matt Tue 11-12, Scott Tue 5-6, Baishen Thu 11-12, Yashvi/Shivang Thu 5-6

## Gram-Schmidt and QR

Consider the following matrix.

$$A = \begin{pmatrix} 1 & 6 & 4 \\ -1 & -2 & 20 \\ 1 & 2 & -14 \\ 1 & 6 & 10 \end{pmatrix}$$

Find an orthogonal basis for  $\text{Col}(A)$ .

Find an orthonormal basis for  $\text{Col}(A)$ .

Find a  $QR$  decomposition for  $A$ .

## Least Squares

Consider the points  $(0, 0)$ ,  $(1, 8)$ ,  $(3, 8)$ , and  $(4, 20)$  in the  $xy$ -plane.

Find the best fit line.

Find the best fit quadratic  $y = f(x)$ .

Find the best fit cubic  $y = f(x)$ .