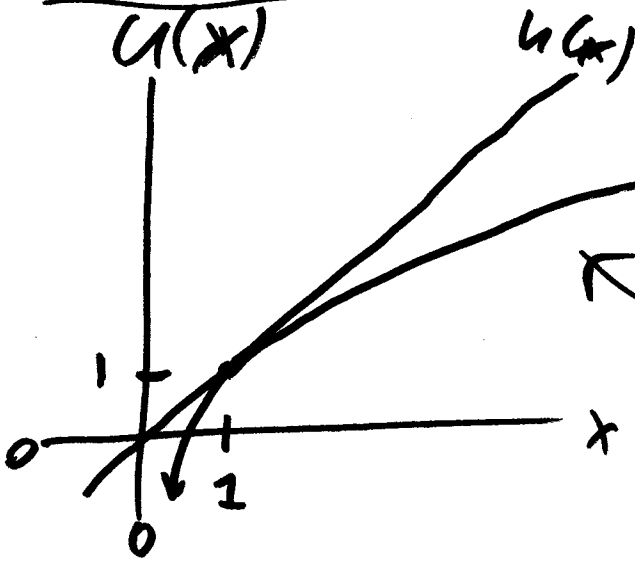
Discussion Section Week of 26-30 May 20

STAT 131
26 May 20

SETs (student evaluation of teaching): open now, closes 7 June 20 ①

~~(response rate)~~ if (% completion) ≥ 80%, everybody gets ⊕ bump



~~wrong~~ convention: big U better

← sublinear

$U(x) = 1 + \log(x)$

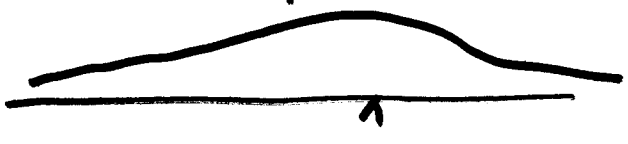
(1730)

expected u.t.i.t

find action that maximizes $E[U(\tilde{x})]$ ← r.v.

Frank Ramsey

$U(\tilde{x})$ under action a_1



a_2

criteria for good predicting

① choose $\hat{x}$ to be unbiased: $\hat{x} = \mu_X = E(X)$

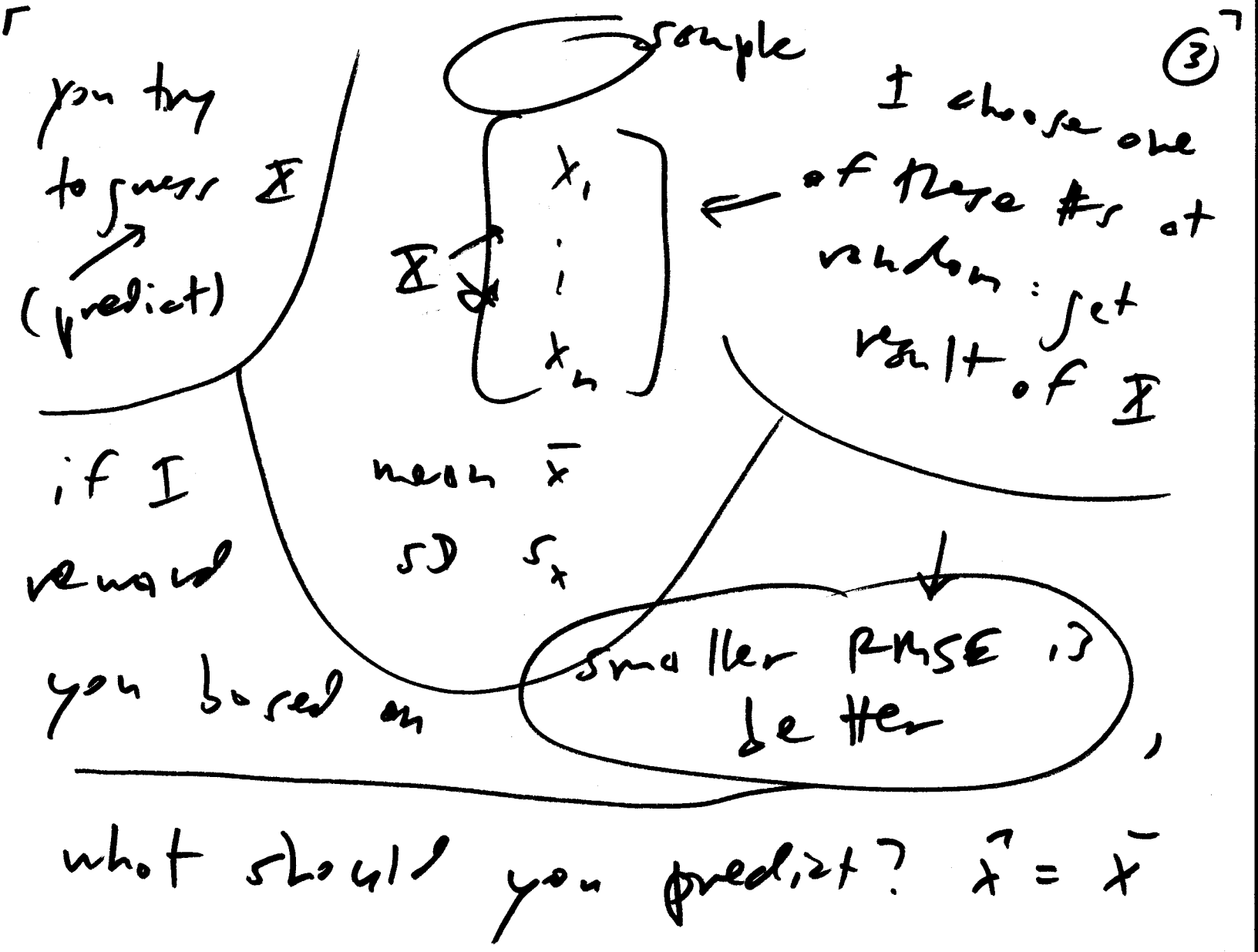
② choose $\hat{x}$ to make our expected magnitude of prediction error small

$E|\hat{x} - X|$ — Laplace — ~~expected~~ mean absolute error (MAE) (not used much)

or $E(\hat{x} - X)^2$ — Gauss — mean squared error (MSE)

downside to MSE: wrong units

$\sqrt{E[(\hat{x} - X)^2]}$ = root mean squared error (RMSE)



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what should you predict? $\hat{x} = \bar{x}$

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how big do you expect your prediction error to be?

$$RMSE(\hat{x}) = s_x$$