7.4 THE CENTRAL LIMIT THEOREM

DISTRIBUTION	VS. SAMPLING DISTRIBUTION
OF INDIVIDUAL MEASUREMENTS TAKEN FROM POPULATION	OF AVERAGES (OR SUMS) OF n MEASUREMENTS TAKEN FROM POPULATION
1 EXPERIMENT IS INDIVIDUAL MEASUREMENT	1 EXPERIMENT IS TAKING n MEASUREMENTS AND AVERAGING (OR ADDING) THEM
COULD HAVE ANY SHAPE	IS APPROXIMATELY NORMAL (UNDER CERTAIN ASSUMPTIONS · DISTRIBUTION IS NORMAL, OR · $n \geq 30$.)
e.g. ROLLING A DIE DISTRIBUTION IS UNIFORM	SAMPLING DISTRIBUTION APPROXIMATELY NORMAL, EVEN FOR $n = 2, 3, 4, \ldots$ (SMALL #'S)

CENTRAL LIMIT THM IF RANDOM SAMPLES OF n OBSERVATIONS ARE DRAWN FROM A NONNORMAL POPULATION WITH MEAN μ & STAN. DEV. σ, THEN FOR LARGE n THE SAMPLING DISTRIBUTION OF THE SAMPLE MEAN $\bar{x}$ IS APPROX NORMALLY DISTRIBUTED WITH MEAN μ (SAME!) AND STAND DEV. $\frac{\sigma}{\sqrt{n}}$ "STANDARD ERROR OF THE MEAN" / S.E.M., S.E.

(APPROX. GETS BETTER AS n GETS LARGER)

C.L.T. CAN BE RESTATED TO APPLY TO THE SUM OF THE SAMPLE MEASUREMENTS $\sum x_i$, WHICH, AS n BECOMES LARGE ALSO HAS AN APPROX. NORMAL DISTRIBUTION WITH MEAN $n\mu$ & STAND. DEV. $\sigma\sqrt{n}$.

§7.5 THE SAMPLING DISTRIBUTION OF THE SAMPLE MEAN

EXAMPLES.

TALK ABOUT #17

#25, 28, 30, 31