Section 5
Binomial Problem

$$X = \#$$
 successes in repeated trials
 $n = \#$ of trials
 $p = probability$ of success on 1+rial
 $q =$ "failure "
 $q = 1-p$
 $P(st) = (ncx) p^{x} q^{n-x}$
 $P(x$ successes)

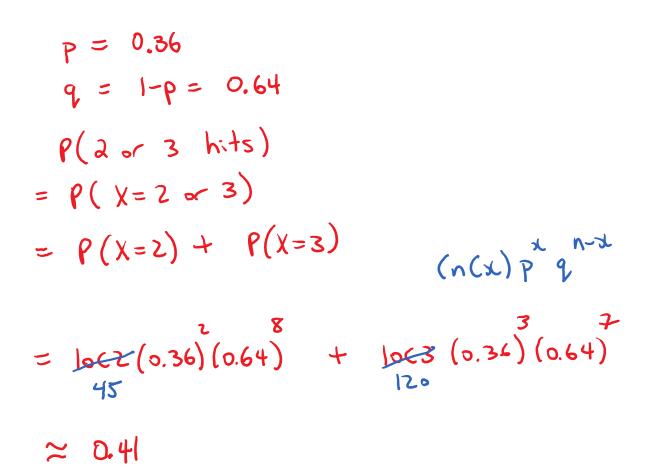
Ex 2. A drilling company is successful on 82% of drilling attempts. Find the probability of at least seven successes in the next eight attempts.

BINDMIAL (repeated trials)

$$X = \#$$
 successes = $\#$ successful drilling attempts
 $h = 8$
 $p = 0.82$
 $q = 1 - p = 0.18$
 $P(at \text{ least 7 successes})$
 $= P(X \ge 7)$

Ex 3. A dart-thrower hits the target 36% of the time. He does not improve with practice. He throws ten darts. Find the probability that he hits the target two or three times.

BINOMIAL (repeated trials) X= #successes = # times he hits target n = lo-



Ex 4. A multiple-choice test has three questions, each of which has four possible answers. A student guesses randomly on each question. a) Find the probability distribution for the number of questions the student gets correct b) Drew a histogram

b) Draw a histogram

Probability distribution a) P(x) X

