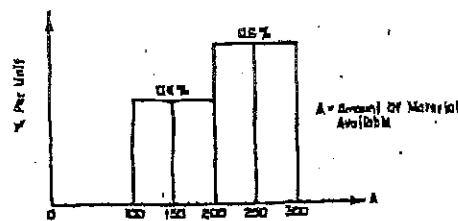


Assignment 1

- 1) At a construction project, the amount of material (say lumber for falsework) available for any day is variable, and can be described with the frequency diagram shown. The amount of material used in a day's construction is either 150 units or 250 units, with corresponding probabilities 0.70 and 0.30.
- (a) What is the probability of shortage of material in any day? Shortage occurs whenever the available material is less than the amount needed for that day's construction.
- (b) If there is a shortage of material, what is the probability that there were fewer than 200 units available?



- 2) Three research and development groups, A, B, and C, submitted proposals for a research project to be awarded by a research agency of the government. From past performance records, the respective histograms of completion time relative to the scheduled target time t_0 are shown. It is known that groups A and B have about equal chances of getting the project, whereas C is twice as likely as either A or B to win the contract.

Based on past performance records, determine:

- (a) The probability that the project will be completed on schedule.
- (b) If the project completion is delayed, what is probability that it was originally awarded to C?

