ACTIVITY 2

CCS226-18

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2BSCS-1

1. THE CCS BUILDNG HAS 2 ELEVATORS. THE PROBABILITY THAT ANY ONE OF THEM WILL NOT FUNCTION IS 0.03. WHAT IS THE PROBABILITY THAT ON A CERTAIN DAY, BOTH WILL FAIL TO FUNCTION AND EVERYBODY INCLUDING SENIOR CITIZENS WILL USE THE STAIRS.

Elevator 1: P(A) = 0.03 Elevator 2: P(B) = 0.03

P(A and B) = P(A) x P(B)

P(A and B) = 0.03 x 0.03 = 0.0009

There is <u>0.09% chance</u> that both the elevators will not function someday.

2. A BSSCS STUDENT ASSUMES THAT THE PROBABILITY THAT HE WILL PASS CCS226-18 IS 0.6 AND THE PROBABILITY THAT HE WILL PASS ADVANCE CALULUS IS 0.50 AND THE PROBABILITY THAT HE WILL PASS BOTH IS 0.45. DETERMINE THE PROBABILITY THAT HE WILL AT LEAST PASS ONE OF THE 2 SUBJECTS.

A: CCS226-18 P(A) = 0.6

B: Advance Calculus P(B) = 0.5

P(A and B) = 0.45

Passing at least one = 1 - P(A or B)

P(A or B) = P(A) + P(B) - P(A and B)

= 0.6 + 0.5 - 0.45

= 0.65

1 - P(A or B) = 1 - 0.65

= 0.35

There is a probability of <u>35%</u> that he will pass at least one of the two subjects.

3. A RETAILER OF COMPUTER PARTS HAS 4 EMPLOYEES A, B, C, AND D WHO MAKES MISTAKES IN FILLING ORDERS ONE TIME IN 100, 4 TIMES IN 100, 6 TIMES IN 100, AND 2 TIMES IN 100 RESPECTIVELY. OF ALL ORDERS FILLED, A, B, C, AND D FILL 20, 30, 10, AND 40 PERCENT. WHAT IS THE PROBABILITY THAT

A) A MISTAKE WILL BE MADE IN THE ORDER;
B) IF A MISTAKE WAS MADE IN AN ORDER, THE ORDER WAS FILLED BY A;
C) IF A MISTAKE WAS MADE IN AN ORDER, THE ORDER WAS FILLED BY D?

			value based on contribution
P(A) = 1/00	= 0.01	x 0.20	= 0.002
P(B) = 4/100	= 0.04	x 0.30	= 0.012
P(C) = 6/100	= 0.06	x 0.10	= 0.006
P(D) = 2/100	= 0.02	x 0.40	= 0.008

a) P(A or B or C or D) = P(A) + P(B) + P(C) + P(D)
= 0.002 + 0.012 + 0.006 + 0.008
= 0.028

A) There is a probability of <u>2.8%</u> that a mistake will be made in the order.

B) If a mistake was made, there is a <u>0.2%</u> chance that employee A filled the order.

C) If a mistake was made, there is a <u>0.8%</u> chance that employee D filled the order.