

Statistics – OR 155, Section 1, Homework # 3

Due: Thursday, February 5, 2007

4.129

C9: The workforce in a town has:

(20%, 50%, 30%)

workers with

(no HS, HS-no C, C)

education. Past experience indicates that

(10%, 30%, 90%)

of workers with

(no HS, HS-no C, C)

education can perform a given task. Find the probability that a randomly chosen worker:

- Can perform the task (0.44)
- Is College educated if (s)he can perform the task (0.61)

4.30 ($P(A)=0.125$, $P(B)=0.751$, $P(A\&B)=0.094$), 4.37, 4.111

4.36 (0.328, 0.659), 4.38 (0.0082, 0.0055, 0.0027), 4.39

C10 Suppose events A, B, C all have probability 0.4, A & B are independent, and A & C are mutually exclusive.

- Find $P\{A \text{ or } B\}$ (0.64)
- Find $P\{A \text{ or } C\}$ (0.8)
- Find $P\{A \text{ and } B\}$ (0.16)
- Find $P\{A \text{ and } C\}$ (0)

4.49, 4.50 a, c (0.441) 4.51 b,c

C 11: For a random variable Y, with distribut'n:

y	-2	-1	0	1	5
f(y)	0.3	0.2	0.1	0.2	0.2

Find:

- $P\{Y = 5\}$ (1/5)
- $P\{Y = 3\}$ (0)
- $P\{Y \leq 0\}$ (3/5)
- $P\{-1 \leq Y \leq 1\}$ (1/2)
- $P\{Y \geq 1 \mid Y \geq -1\}$ (4/7)
- $P\{Y = 5 \mid Y \leq 0\}$ (0)

4.55, 5.11, 5.12 (a. no, not count, b. yes, c. approx.)