

Quiz 1

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Problem 1:

Disks of polycarbonate plastic from a supplier are analyzed for scratch and shock resistance. The results from 100 disks are summarized as follows:

	Shock Resistance\	
	High(A)	Low\
Scratch High(B)	70	9
Resistance Low	16	5

Let A denote the event that a disk has high shock resistance, and let B denote the event that a disk has high scratch resistance. If a disk is selected at random, determine the following probabilities: (6 points)

a)

$P(A)$

Ans: $P(A) = 0.86$

b)

$P(B)$

Ans: $P(B) = 0.79$

c)

$P(A^c)$

Ans: $P(A^c) = 0.14$

d)

$P(A \cap B)$

Ans: $P(A \cap B) = 0.7$

e)

$P(A \cup B)$

Ans: $P(A \cup B) = 0.95$

f)

$$P(A \cup B)$$

$$\text{Ans: } P(A \cup B) = 0.84$$