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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$:

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$:

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$:

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Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

I :

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Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

I : Item picked at random defective

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Define the events

$B0$: 0 defective items in box

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I : Item picked at random defective

The question can be stated formally(mathematically) as

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Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

I : Item picked at random defective

The question can be stated formally(mathematically) as

$P(B2|I)$

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

I : Item picked at random defective

The question can be stated formally(mathematically) as

$$P(B2|I) = \qquad P(I|B2)$$

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

I : Item picked at random defective

The question can be stated formally(mathematically) as

$$P(B2|I) = \frac{P(I|B2)P(B2)}{}$$

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

I : Item picked at random defective

The question can be stated formally(mathematically) as

$$P(B2|I) = \frac{P(I|B2)P(B2)}{P(I|B0)P(B0)}$$

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

I : Item picked at random defective

The question can be stated formally(mathematically) as

$$P(B2|I) = \frac{P(I|B2)P(B2)}{P(I|B0)P(B0) + P(I|B1)P(B1)}$$

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

I : Item picked at random defective

The question can be stated formally(mathematically) as

$$P(B2|I) = \frac{P(I|B2)P(B2)}{P(I|B0)P(B0) + P(I|B1)P(B1) + P(I|B2)P(B2)}$$

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Solution for review exercise 1 (chapter 1) in Pitman

Define the events

$B0$: 0 defective items in box

$B1$: 1 defective item in box

$B2$: 2 defective items in box

I : Item picked at random defective

The question can be stated formally(mathematically) as

$$P(B2|I) = \frac{P(I|B2)P(B2)}{P(I|B0)P(B0) + P(I|B1)P(B1) + P(I|B2)P(B2)} = \frac{1 \cdot 0.03}{0 \cdot 0.92 + 0.5 \cdot 0.05 + 1 \cdot 0.03} = \frac{6}{11}$$