

	Drugs Present	Drugs Not Present	Totals
Spot Barks	$(.97(0.0001))N$ $=0.000097N$	$(.03(.9999))N=$ $0.029997N$	$0.000097N+0.029997N$ $=0.030094N$
Spot is Silent	$0.0001N-$ $0.000097N =$ $0.000003N$	$0.9999N-0.029997N$ $=0.969903N$	$1N-0.030094N$ $=0.969906N$
Totals	$0.0001N$	$0.9999N$	$N$

If you have a total of N bags, boxes, and packages inspected, then Spot Barks at exactly 0.0300094N of those items. However, only 0.000097N of the items actually has drugs.  $0.000097/0.030094$  is about 0.0032 or about 0.32% of the times.

For example,

Lets say there are 1,000,000 bags

We know that 100 contain drugs (0.01%)

Of these Spot correctly identifies 97 bags (97%), 3 bags get through.

999,900 do not have drugs (99.99%)

Of these Spot incorrectly identifies 29,997 as having drugs (3%)

The total number of bags that Spot identified as having drugs is  $29,997 + 97 = 30,094$

Probability that an identified bag actually has drugs  $97/30,094 * 100 = \mathbf{0.322\%}$

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