

hw1

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1 Bai 1:

Solution

Set A is an event that someone testing positive for disease

Set B is an event that someone tested with new test

We have:

$$P(A|B) = \frac{P(AB)}{P(B)}$$

$$P(A|B) = \frac{(0.05 * 0.98)}{(0.05 * 0.98) + (0.95 * 0.03)}$$

$$P(A|B) = 0.632$$

So the probability that someone testing positive for Hansen's disease under this new test actually has it is 63.2%