**Question 6**

A web site ([www.medicine.ox.ac.uk/bandolier/band64/b64-7.html](http://www.medicine.ox.ac.uk/bandolier/band64/b64-7.html)) for home pregnancy tests cites the following: “When the subjects using the test were women who collected and tested their own samples, the overall sensitivity was 75%. Specificity was also low, in the range 52% to 75%.” Assume the lower value for the specificity. Suppose a subject has a positive test and that 30% of women taking pregnancy tests are actually pregnant. What number is closest to the probability of pregnancy given the positive test?

(Hints, watch Lecture 3 at around 7 minutes for a similar example. Also, there's a lot of Bayes' rule problems and descriptions out there, for example [here's one for HIV testing](http://www.statlect.com/bayes_rule.htm). Note, discussions of Bayes' rule can get pretty heady. So if it's new to you, stick to basic treatments of the problem. Also see Homework 2 question on page 5/12.)

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