

MATH 1342: Extra Credit for Homework 2

Reminders:

- Extra Credit questions are difficult and involve more work than a standard homework question.
- You will receive up to 10% additional points (not to exceed full credit) on the related Homework Assignment only. Keep in mind for an assignment graded out of 10 to 20 points, this is only 1 or 2 additional points.
- Unlike assigned homework questions, extra credit questions should not be brought to your instructor or to tutoring services for assistance.
- Correct Answers with valid explanation of your process will receive credit only.
- These are due the Sunday following their related Homework assignment by 11:59 pm.
- Submit Answers to <https://forms.gle/yw89xJe8PBrqvF5J7> (Late Answers will not be accepted.)

An over-the-counter pregnancy test claims to be accurate 95% of the time (with the probability of a false negative being 0.08046 and the probability of a false positive being 0.02655).

A woman that suspects she is pregnant uses this test and obtained a positive result. What is the probability that she is actually pregnant? Present answer rounded to four decimal places.

For the purposes of this question, an Accurate Test is defined as either being pregnant and obtaining a positive results or not being pregnant and obtaining a negative result; a False Negative is defined as obtaining a negative result given that one is pregnant; and a False Positive is defined as obtaining a positive result given that one is not pregnant.