

## MATH 3307: 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.*