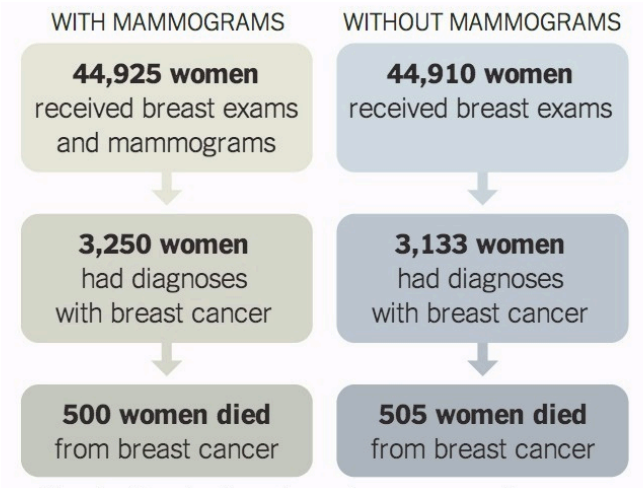
**Quiz 1** **Name:**_____

In the US and Europe, most women over 50 have yearly mammograms (breast X-rays) for early detection of breast cancer. However, breast cancer can also be detected by regular physical breast exams. On February 11, 2014, the New York Times reported on a longitudinal study in which Canadian women had been randomly assigned to have regular mammograms and breast exams or just breast exams. The results were the following:[1]




(a) How many women were involved in the study?

***Leave probabilities as un-simplified fractions.***

(b) What is the probability that a woman died from breast cancer?

(c) If a woman had mammograms, what was the probability that she died from breast cancer?

(d) Give the conditional probability notation for your answer to part (c).

(e) If a woman did not have mammograms, what is the probability that she died from breast cancer?

(f) What is the probability that a woman who died of breast cancer had had mammograms?

(g) Give the conditional probability notation for your answer to part (f).

(h) Are mammograms and death from breast cancer Independent _____ Not independent____? (check one)
Reason for your answer (*Now you will need to calculate some probabilities. Give proportions with exactly* ***three digits*** *after the decimal point.*):

[1] [1] http://www.nytimes.com/2014/02/12/health/study-adds-new-doubts-about-value-of-mammograms.html?_r=0, Gina Kolata Feb 11, 2014