HW problems:

1.28: (a) randomized experiment (b) Because it was randomized, we can conclude that wearing the nicotine patch significantly increases one’s chances of successfully quitting smoking (c) We need to have a comparison group, and we want to avoid the placebo effect, so we want to see how effective the patch is above and beyond the effect of just feeling like you’re being treated.

1.38: (a) observational study, because it would be difficult to force participants into breastfeeding and non-breastfeeding groups (b) “Link found…” because we can’t assume causation with observational studies.

2.1: (a) 4 (b) state (c) 50

2.6: (a) statistic (b) parameter (c) statistic

2.18: (a) explanatory – amount of walking/running, response – lung function (b) explanatory – age, response – importance of religion

2.30: (a) 1700/2470 = 69% (b) 1056/1700 = 62% (c) 300/657 = 46% (d) 41/113 = 36% (e) summarize what (b)-(d) tell us: that there seems to be a relationship such that as the student’s general grades get better, they become more likely to always wear a seatbelt.

2.38: (a) male median = 110, female median = 89 🡺 males tend to drive faster (b) male IQR = 25, female IQR =15 🡺 spread larger for males

2.42: (a) skewed to the right (b) the value 13 seems to be an outlier, as it is separated from the bulk of the data (c) 2 is reported most often, by about 44 women (d) ~30

2.62: (a) 12 (b) 13 (c) the box for males is much longer than that for females (d)=(e)= 23-6=17

2.74: (a) mean = 2.45, median = -7 (b) the median seems a better measure, as it indicates that the average game was lost by 7 points, whereas the mean indicates the average game was won by 2.45 points. Since they lost far more than they won, the median seems to better capture this.