1a)

$H_0: p_1 = p_2$

$H_1: p_1 \neq p_2$

z = −2.93 p = 0.3%, We have strong evidence that the proportions of all purchased items that get returned to each store within 90 days are different.

1b) We are 90% confident that the proportion of all purchased items from Kohcy's that are returned within 90 days is between 2.04 and 6.96 percentage points higher than for all items purchased from Penstrom's.

2a)

$H_0: p_1 = p_2$

$H_1: p_1 < p_2$

z = −0.82, p = 20.7%, We do not have evidence that the party affiliation is lower for females than males.

2b) We are 95% confident that the difference in proportion of all females and males is between −7.46%, meaning percentage of females is 7.46 percentage points lower than males, and +3.06%, meaning percentage of females is 3.06 percentage points higher than males. Since zero is contained in the interval, there may be no difference between the groups.

3)

$H_0: p_1 = p_2$

$H_1: p_1 \neq p_2$

z = 0.50, p = 61%, we do not have evidence that these two coins give different percentages of heads on all possible flips.