1.

a. 0.5793

b. 0.9772

c. In this case, referring to point a might give a better idea about the individual fitment of helmets, this would mean 57% of men will find the helmet that fits, however, sizeable number of 42% men will not find a helmet that fits.

2.

The test statistic -1.8931 lies between the critical values -1.9600 and 1.9600. At 0.5 level of significance, we cannot reject the null hypothesis that the mean penguin weight does not differ from last year.