a) Home heating costs Vs Size Hypothesis H0: There is no significant relationship between home 4 heating cost and size H1: There is a significant relationship between home heating cost and size Significance=0.05/2=0.025 Z=1.96 Decision criteria; Reject H0 if t static is greater than 1.96 and accept H1 Observed value of t statistics=3.78>1.96, we reject H0 and accept H1 Observed value of P−value=0.006 Decision; There is a significant relationship between home heating cost and size Home heating costs vs Windows Hypothesis H0: There is no significant relationship between home heating cost and windows H1: There is a significant relationship between home heating cost and windows Significance=0.05/2=0.025 Z=1.96 Decision criteria; Reject H0 if t static is greater than 1.96 and accept H1 Observed value of t statistics=1.621.96, we reject H0 and accept H1 Observed value of P−value=0.0316 Decision; There is a significant relationship between home heating cost and windows