7D Two-Tailed Tests

1. A single observation, x, is taken from a Binomial distribution $B(10, p)$, and a value of 1 is obtained. Use this observation to test $H_0: p = 0.45$ against $H_1: p \neq 0.45$ using a 5% significance level.

2. Over a long period of time it has been found that in Enrico's restaurant the ratio of non-vegetarian to vegetarian meals sold is 2:1. In Manuel's restaurant, in a random sample of 12 people ordering meals, 2 ordered a vegetarian meal. Using a 5% significance level, test whether or not the proportion of people eating vegetarian meals in Manuel's restaurant is different to that in Enrico's restaurant.