

2. A manufacturer of sweets knows that 8% of the bags of sugar delivered from supplier  $A$  will be damp.

A random sample of 35 bags of sugar is taken from supplier  $A$ .

- (a) Using a suitable model, find the probability that the number of bags of sugar that are damp is

(i) exactly 2

(ii) more than 3

(3)

Supplier  $B$  claims that when it supplies bags of sugar, the proportion of bags that are damp is less than 8%

The manufacturer takes a random sample of 70 bags of sugar from supplier  $B$  and finds that only 2 of the bags are damp.

- (b) Carry out a suitable test to assess supplier  $B$ 's claim.

You should state your hypotheses clearly and use a 10% level of significance.

(4)