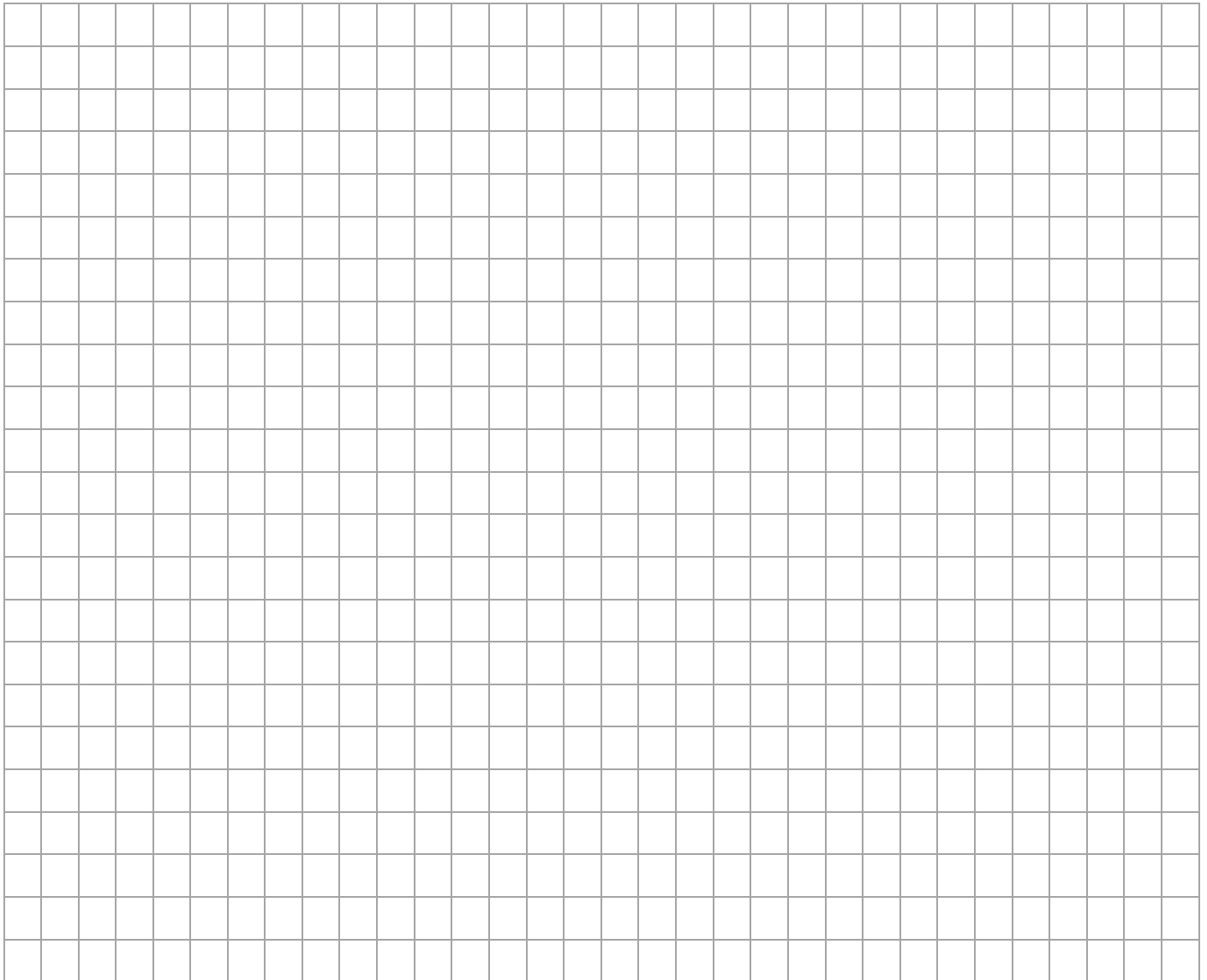


(25 Marks)

A manufacturer carried out a survey of the defects in their soft toys. It is found that the probability of a toy having poor stitching is 0.03 and that a toy with poor stitching has a probability of 0.7 of splitting open. A toy without poor stitching has a probability of 0.02 of splitting open.



(a) Draw a tree diagram to represent this information.



- (b) Show that the probability that a randomly chosen soft toy has exactly one of the two defects, poor stitching or splitting open, is 0.0284.

The manufacturer also finds that soft toys can become faded with probability 0.05 and that this defect is independent of poor stitching or splitting open. A soft toy is chosen at random.

- (c) Find the probability that the soft toy has none of these 3 defects. Give your answer to 5 significant figures.

