

- The random variable  $X$  takes the values  $-1, 1, 2, 3$  only. The probability that  $X$  takes the value  $x$  is  $kx^2$ , where  $k$  is a constant.

(i) Draw up the probability distribution table for  $X$ , in terms of  $k$ , and find the value of  $k$ . [3]

This image shows a full page of white paper with ten horizontal dashed lines, evenly spaced from top to bottom. The lines are thin and black, typical of handwriting practice paper. There is no text or other markings on the page.

(ii) Find  $E(X)$  and  $\text{Var}(X)$ . [3]

[illegible]