13 At an election last year, 20% of voters in Aytown voted for the Now Party. A researcher plans to test whether the proportion of voters in Aytown who support the Now Party this year is greater than 0.2. The hypotheses for the test will be $H_0: p = 0.2$ and $H_1: p > 0.2$.

The researcher surveys a random sample of 200 voters in Aytown and notes the number X who say they support the Now Party.

The random variable Y has a normal distribution which is a good approximation to the distribution of X when the null hypothesis is correct.

The significance level of the test is 5%.

(a) Find the value of y such that $P(Y > y) = 0.05$. **[2]**

(b) Use your answer to part **(a)** to determine the smallest value of X that would result in rejecting the null hypothesis. **[3]**