5 **(a)** A 5-character password is to be formed from the following 10 characters.

Letters	A B C X Y Z
Symbols	* $ # &

No character can be used more than once in any 5-character password.

(i) Find the number of passwords that can be formed. [1]

(ii) Find the number of passwords that can be formed if the password has to contain at least one symbol. [2]

(iii) Find the number of passwords that can be formed if the password has to start with two letters and end with two symbols. [2]

(b) A team of 8 people is to be chosen from 5 doctors, 4 teachers and 6 police officers.

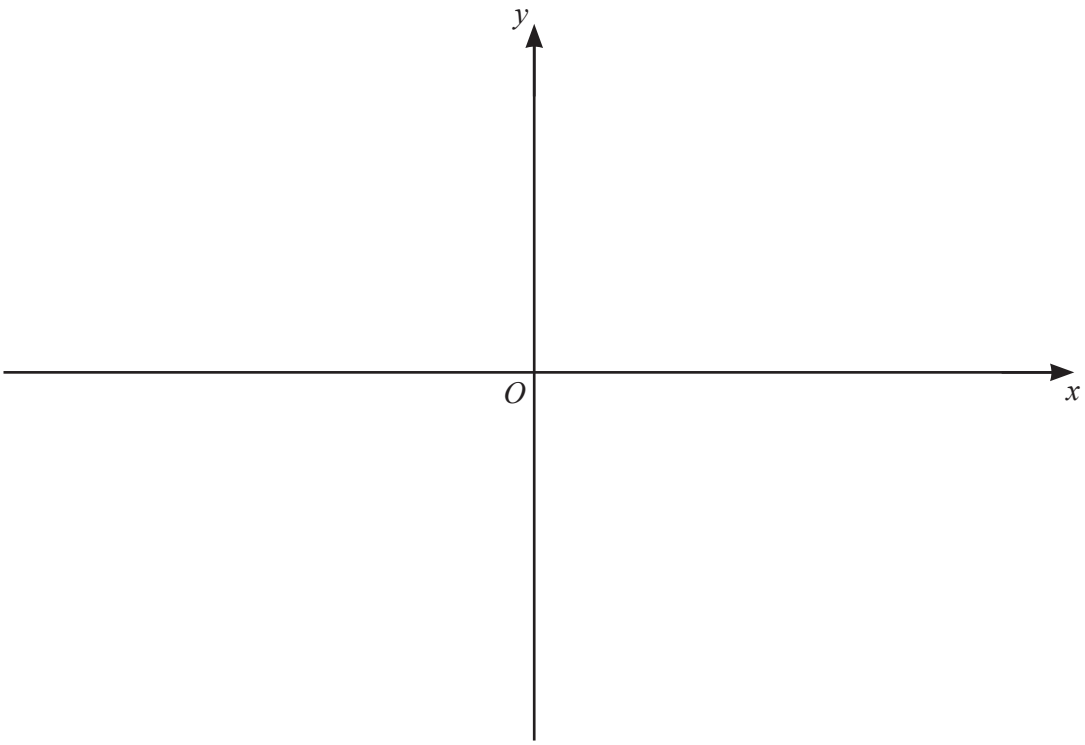
Find how many possible teams have the same number of doctors as teachers. [5]

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6 The polynomial $\mathrm{q}(x)$ is given by $\mathrm{q}(x) = -\frac{1}{3}(2x-1)(x+3)^2$.

(a) Find the x-coordinates of the stationary points on the curve $y = \mathrm{q}(x)$. [4]

(b) On the axes, sketch the graph of $y = \mathrm{q}(x)$ stating the intercepts with the coordinate axes. [3]



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