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| **Statistics and Probability Revision**  | **6** |
| **(a)** | **(b)** |
| Complete the Venn diagram to show the number of elements in each set, given the information below. | There are 12 pens in a pencil case. 6 pens are red, 2 are black and the rest are green. Dottie chooses two pens from the pencil case at random. Work out the probability that both the pens chosen are the same colour. |
| $$n\left(A∩B∩C\right)=9$$$$n\left(A∩B\right)=11$$$$n\left(B∩C∩A^{'}\right)=12$$$$n\left(A∪B∪C\right)^{'}=7$$$$n\left(A\right)=35$$$$n\left(A∪B\right)=50$$$$n\left(A∩C∩B^{'}\right)=∅$$$$n\left(ξ\right)=75$$ |  |
| **(c)** | **(d)** |
| The histogram shows information on the distance in km that some workers commute to work each morning. Estimate the proportion of workers who commute more than 10 km. | A biscuit tin contains 8 bourbons and some digestives. There are $n$ biscuits in total in the tin. Roy chooses two biscuits at random from the tin. Given that the probability that Roy chooses two different types of biscuit is $\frac{48}{95}$, find the total number of biscuits in the tin. |