Let's find probability that a random sample of 10 individuals contain 3 or less vegetarians. Denote number of vegetarians in the sample by 10. Then ξ has Binomial distribution with parameters $n = 10$ and $p = 0.5$. Thus

$$\begin{aligned} P(\xi \le 3) &= P(\xi = 0) + P(\xi = 1) + P(\xi = 2) + P(\xi = 3) \\ &= \binom{10}{0} 0.5^0 0.5^{10} + \binom{10}{1} 0.5^1 0.5^9 + \binom{10}{2} 0.5^2 0.5^8 + \binom{10}{3} 0.5^3 0.5^7 \\ &= 0.5^{10} \left(\binom{10}{0} + \binom{10}{1} + \binom{10}{2} + \binom{10}{3} \right) \\ &= 0.5^{10}(1 + 10 + 45 + 120) = \frac{176}{1024} = \frac{11}{64} \end{aligned}$$

Thus expected number of investigators reporting about 3 or less vegetarians equals

$$100 \cdot \frac{11}{64} = \frac{275}{16} = 17.1875$$