

$$p = P(5\text{有車} \mid \text{開6且6是羊})$$

$$= \frac{\frac{1}{9} \times \frac{31}{52}}{\frac{1}{9} \times \frac{1}{8} + \frac{4}{9} \times \frac{31}{52} + \frac{1}{9} \times 0 + \frac{3}{9} \times \frac{21}{52} \times \frac{1}{6}}$$

$$= \frac{31}{141}$$

$$E(\text{增加身高}) = \sum_{i=0}^{\frac{k}{2}} (2i \times C_{\frac{k}{2}-i}^k \times p^{\frac{k}{2}+i} (1-p)^{\frac{k}{2}-i}) +$$

$$(-1) \times \sum_{i=1}^{\frac{k}{2}} (C_{i-1}^{2i-1} \times p^{i-1} (1-p)^i)$$

$$ANS = 153 + E(\text{增加身高})$$