

$$16. \Pr(\text{body in fridge} \mid \text{both } P \text{ and } Q \text{ say same thing}) = \frac{\frac{1}{2}pq}{\frac{1}{2}pq + \frac{1}{2}(1-p)(1-q)} = \frac{pq}{1-p-q+2pq}$$

$$\Pr(A \text{ is in fridge before asking } P \text{ and } Q) = \frac{2}{3}$$

$$\text{so after asking } P \text{ and } Q, \Pr = \frac{\frac{2}{3}pq}{\frac{2}{3}pq + \frac{1}{3}(1-p)(1-q)} = \frac{2pq}{1-p-q+3pq}$$
