

P864: 3-10, 14-16, 18, 28-34


③ $\left. \begin{matrix} 6 \\ 2, 3, 5 \end{matrix} \right\} 4 \quad \frac{4}{6} = \frac{2}{3}$ ④ $\left. \begin{matrix} 2, 4, 6 \\ 5 \end{matrix} \right\} 4 \quad \frac{4}{6} = \frac{2}{3}$

⑤ $\left. \begin{matrix} 1, 3, 5 \\ \textcircled{1}, 2, \textcircled{3}, 4 \end{matrix} \right\} \begin{matrix} \text{Overlap} \\ 5 \text{ unique} \end{matrix}$
 exclude ...
 double count

$\frac{5}{6}$ ⑥ $\left. \begin{matrix} 3, 6 \\ 2, 4, \textcircled{6} \end{matrix} \right\} \begin{matrix} \text{Overlap} \\ \frac{4}{6} = \frac{2}{3} \end{matrix}$

⑦ 16 marbles
 7 yellow 5 blue = 12 outcomes
 $\frac{12}{16} = \left(\frac{3}{4} \right)$

⑧ $\left. \begin{matrix} 2, 4, 6, 8, 10 \\ 1, \textcircled{2}, 3, \textcircled{4} \end{matrix} \right\} 7$
 $\frac{7}{10}$ or $.7$

⑨ Roll 2  + 36 outcomes

$$\frac{1}{6} \cdot \frac{1}{6} = \frac{1}{36}$$

⑩ 7 letters
B

$$\frac{2}{7} \cdot \frac{1}{6} = \frac{2}{42}$$

$$= \frac{1}{21}$$

⑭ Black 16
Queens 2 ← 1 black queen

32 total

$$\frac{17}{32}$$

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$$\textcircled{15} \frac{4}{32} \cdot \frac{4}{32}$$

$$\frac{1}{8} \cdot \frac{1}{8} = \frac{1}{64}$$

$\textcircled{16}$

$$\frac{2}{32} \cdot \frac{16}{31}$$

$$\frac{1}{16} \cdot \frac{16}{31} = \frac{16}{496}$$

$$= \frac{1}{31}$$

$$5P_3 \rightarrow 5P_3 = 60$$

$$5P_0 \rightarrow 5P_0 = 1$$

$$5C_0 \rightarrow 5C_0 = 1$$

$$5C_3 \rightarrow 5C_3 = 10$$