Q1.

①	②	③
4R + 6G	5R + 5G	3R + 7G

6 sided dice

$1 \,||\, 2 \Rightarrow \frac{2}{6} \rightarrow ①$

$3 \,||\, 4 \Rightarrow \frac{2}{6} \rightarrow ②$

$5 \,||\, 6 \Rightarrow \frac{2}{6} \rightarrow ③$

$$P(R) = P(R)(①) + P(R)2 + P(R)3$$

$$= \frac{2}{6} \times \frac{4}{10} + \frac{2}{6} \times \frac{5}{10} + \frac{2}{6} \times \frac{3}{10}$$

$$= \frac{1}{3}\left[\frac{4+5+3}{10}\right] = \frac{1}{3} \times \frac{12}{10} 4 = \frac{4}{10} = \frac{2}{5}$$

W

② 4R , 10G , 6Y → 3 balls without replacement

→ ① all red

② 2-red & 1-green

$$P(\text{all Red}) = \frac{4}{20} \times \frac{3}{19} \times \frac{2}{18} =$$

① ② ③

$$= \frac{1}{5} \times \frac{1}{19} \times \frac{2}{6}\frac{1}{3} = \frac{1}{19 \times 15} = \frac{1}{285}$$

P[2 Red & 1 green].

R R G

G R R ⇒ $3 \times \left[\frac{4}{20} \times \frac{3}{19} \times \frac{10}{18}\right]$

R G R.

$$= \frac{1}{19}$$

③ 100 / 365

stamp plots dine

W3.

$\frac{100}{365}$

P(RT) ✓

P

Let R be the event it rains

Let ~~B be~~ B be the event that it is predicted to rain

Let $\overline{B}$ be the event that it is predicted not to rain

$$P(R|B) = \frac{P(B|R) \cdot P(R)}{P(B)}$$

$$P(B) = P(B|R)P(R) + P(B|\overline{R})P(\overline{R}).$$

$$= \frac{0.9 \times 100/365}{0.9 \times 100/365 + 0.1 \times 265/365}$$

$$= \frac{0.9 \times 100}{0.9 \times 100 + 0.1 \times 265}$$

$$= \frac{90}{90 + 26.5} = 77.253\%$$