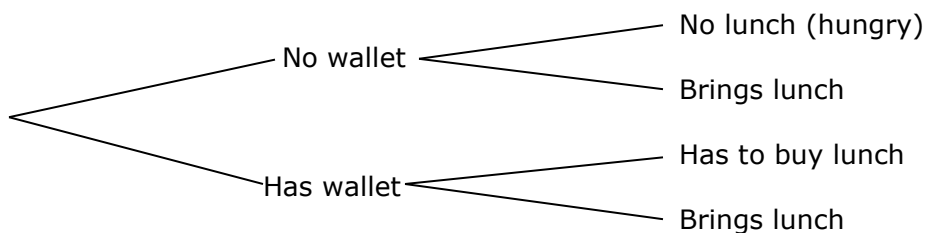# Routine Probability Practice #1

1. Three friends record their results playing *Mario Kart*. You can assume these represent their usual range of results.

	1st	2nd	3rd
Pete	4	3	5
Louis	6	2	4
Robbie	2	7	3

   a) What do you predict is the probability Pete will win the next game?

   b) What is the probability that the last game they played was won by Louis?

2. Bob and Sean want to go surfing at the weekend. The weather forecast is that the probability of a sufficient swell is 60% for Saturday and 70% on Sunday. What is the probability that they will get at least one day of decent swell over the weekend?

3. The soccer coach shouts his winning team KFC. There are 14 in the team, including reserves. 4 got chicken and Pepsi, 5 got chicken and 7-Up, 3 got burgers and Pepsi and the rest wanted burgers and 7-Up.

   a) What is the probability that a randomly selected player got Pepsi?

   b) If a player got 7-Up, what is the probability that he had a burger?

4. Albert forgets his wallet 12% of the time. He forgets his lunch on 8% of days. Complete the table below and calculate the probability that Albert will have lunch.
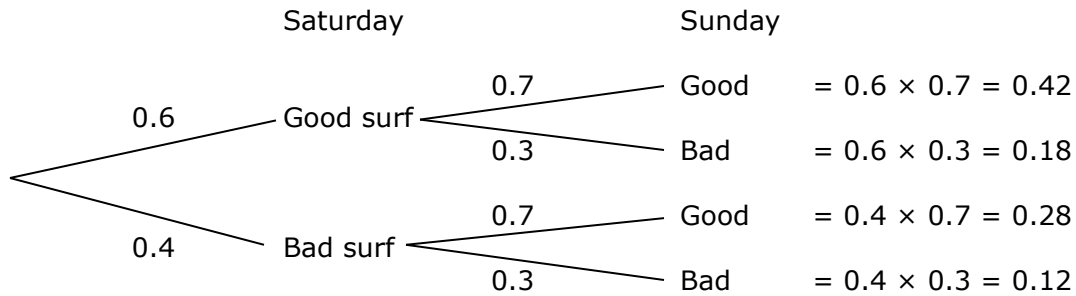
Answers: Routine Probability Practice #1

1.

    a)   Pete has won 4 out of 12, so you would predict $\frac{4}{12} = \frac{1}{3}$ = **0.3333** = **33.3%**

    b)   Louis won 6 out of 12, so you would predict $\frac{6}{12} = \frac{1}{2}$ = **0.5** = **50%**

2.

	Saturday		Sunday	

                               0.7 — Good = 0.6 × 0.7 = 0.42

0.6 — Good surf

                                 0.3 — Bad = 0.6 × 0.3 = 0.18

                                 0.7 — Good = 0.4 × 0.7 = 0.28

0.4 — Bad surf

                                 0.3 — Bad = 0.4 × 0.3 = 0.12

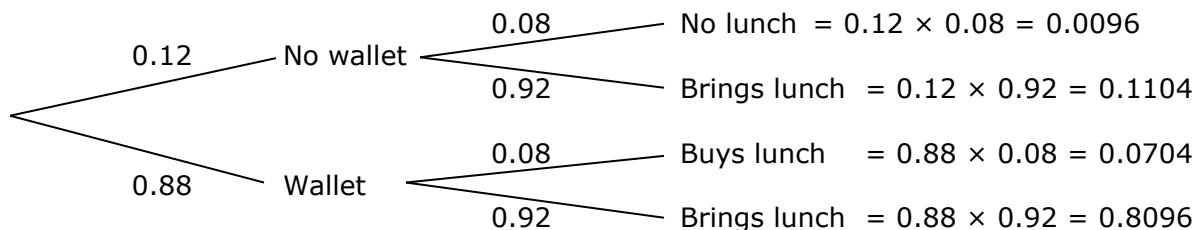   P(at least one good day) = 0.42 + 0.18 + 0.28 = **0.88** = **88%** $= \frac{22}{25}$

3.

    a)   7 got Pepsi (4 with chicken + 3 with burgers) of the 14 $= \frac{7}{14}$ = **0.5** = **50%**

    b)   7 had 7-Up. Of those 5 with chicken + 2 with burgers.

        So 2 out of 7 of those with 7-Up had burgers $= \frac{2}{7}$ = **0.2857** = **28.6%**

4.   Albert forgets his wallet 12% of the time. He forgets his lunch on 8% of days. Complete the table below and calculate the probability that Albert will have lunch.

                                 0.08 — No lunch = 0.12 × 0.08 = 0.0096

0.12 — No wallet

                                 0.92 — Brings lunch = 0.12 × 0.92 = 0.1104

                                 0.08 — Buys lunch = 0.88 × 0.08 = 0.0704

0.88 — Wallet

                                 0.92 — Brings lunch = 0.88 × 0.92 = 0.8096

   Results with lunch = 0.1104 + 0.0704 + 0.8096 = **0.9904** = **99.04%**