Mutually exclusive probability

1. Justin has 4 plain coloured shirts and 5 striped shirts. He also has 2 plain coloured ties, 3 dotty ties and 5 striped ties.

   One morning Justin reaches into the wardrobe and chooses a random shirt and tie.

   What is the probability that he picks:

   a. A plain coloured shirt 4/9
   b. A dotty tie 3/10
   c. A striped shirt and a plain tie 1/9
   d. A plain shirt and a dotty tie 2/15
   e. A plain tie or a dotty tie 1/2
   f. A dotty shirt? 0

2. Amar flips a fair coin twice. What is the probability that he gets:

   a. Two heads 1/4
   b. One head and one tail? 1/2

3. A spinner has the following probabilities of landing on each colour:

Blue	Red	White	Green	Yellow
0.2	0.15	0.05	0.3	0.3

   Maria spins the spinner twice. What is the probability that she gets:

   a. Green followed by white 0.015
   b. Yellow followed by blue 0.06
   c. Green both times 0.09
   d. Not green on either spin 0.49
   e. White and yellow (in either order)? 0.03

4. Two trains into Rugby have the following probabilities of being on time, early or late. Their timings are independent of each other.

Train A		
Early	On time	Late
0.1	0.6	0.3

Train B		
Early	On time	Late
0.05	0.45	0.5

   What is the probability that:

   a. Both trains are late 0.15
   b. One train is on time and one is late? 0.435