

- 9 Labrador puppies may be black, yellow or chocolate in colour. Some information about a litter of 9 puppies is given in the table.

	male	female
black	1	3
yellow	2	1
chocolate	1	1

Four puppies are chosen at random to train as guide dogs.

- (a) Determine the probability that exactly 3 females are chosen. [3]
- (b) Determine the probability that **at least** 3 black puppies are chosen. [3]
- (c) Determine the probability that exactly 3 females are chosen **given that** at least 3 black puppies are chosen. [3]
- (d) Explain whether the 2 events
‘choosing exactly 3 females’ and ‘choosing at least 3 black puppies’
are independent events. [1]