1. Three bags, *A*, *B* and *C*, each contain 1 red marble and some green marbles.

   Bag *A* contains 1 red marble and 9 green marbles only
   Bag *B* contains 1 red marble and 4 green marbles only
   Bag *C* contains 1 red marble and 2 green marbles only

   Sasha selects at random one marble from bag *A*.
   If he selects a red marble, he stops selecting.
   If the marble is green, he continues by selecting at random one marble from bag *B*.
   If he selects a red marble, he stops selecting.
   If the marble is green, he continues by selecting at random one marble from bag *C*.

   (a) Draw a tree diagram to represent this information.

   (2)

   (b) Find the probability that Sasha selects 3 green marbles.

   (2)

   (c) Find the probability that Sasha selects at least 1 marble of each colour.

   (2)

   (d) Given that Sasha selects a red marble, find the probability that he selects it from bag *B*.

   (2)