

Data - Probability Trees

Jan has two boxes.

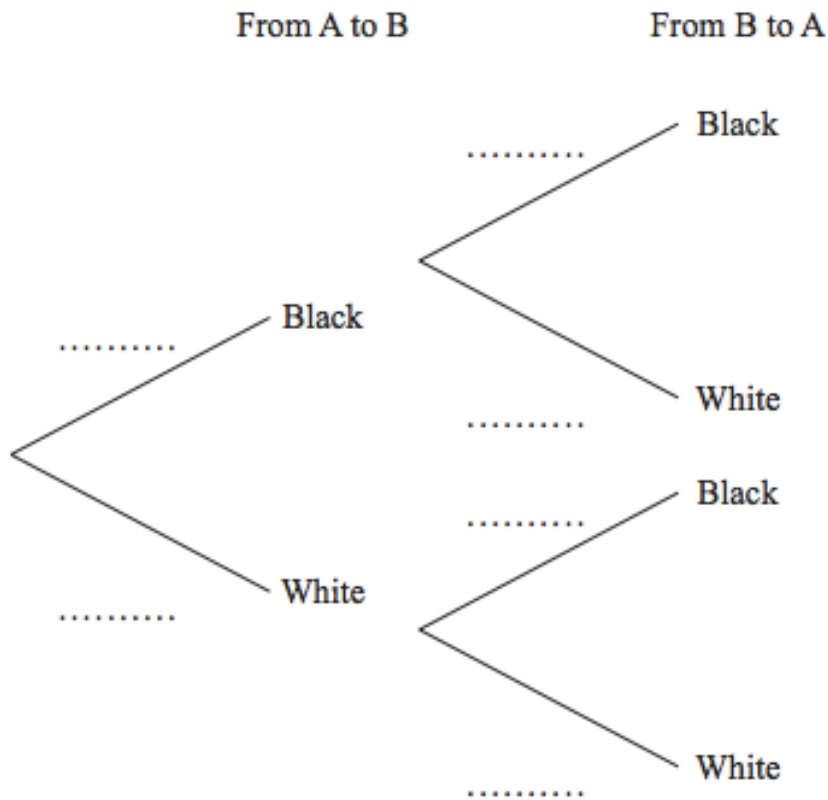
There are 6 black and 4 white counters in box A.

There are 7 black and 3 white counters in box B.

Jan takes at random a counter from box A and puts it in box B.

She then takes at random a counter from box B and puts it in box A.

(a) Complete the probability tree diagram.



(2)

(b) Find the probability that after Jan has put the counter from box B into box A there will still be 6 black counters and 4 white counters in box A.

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(4)

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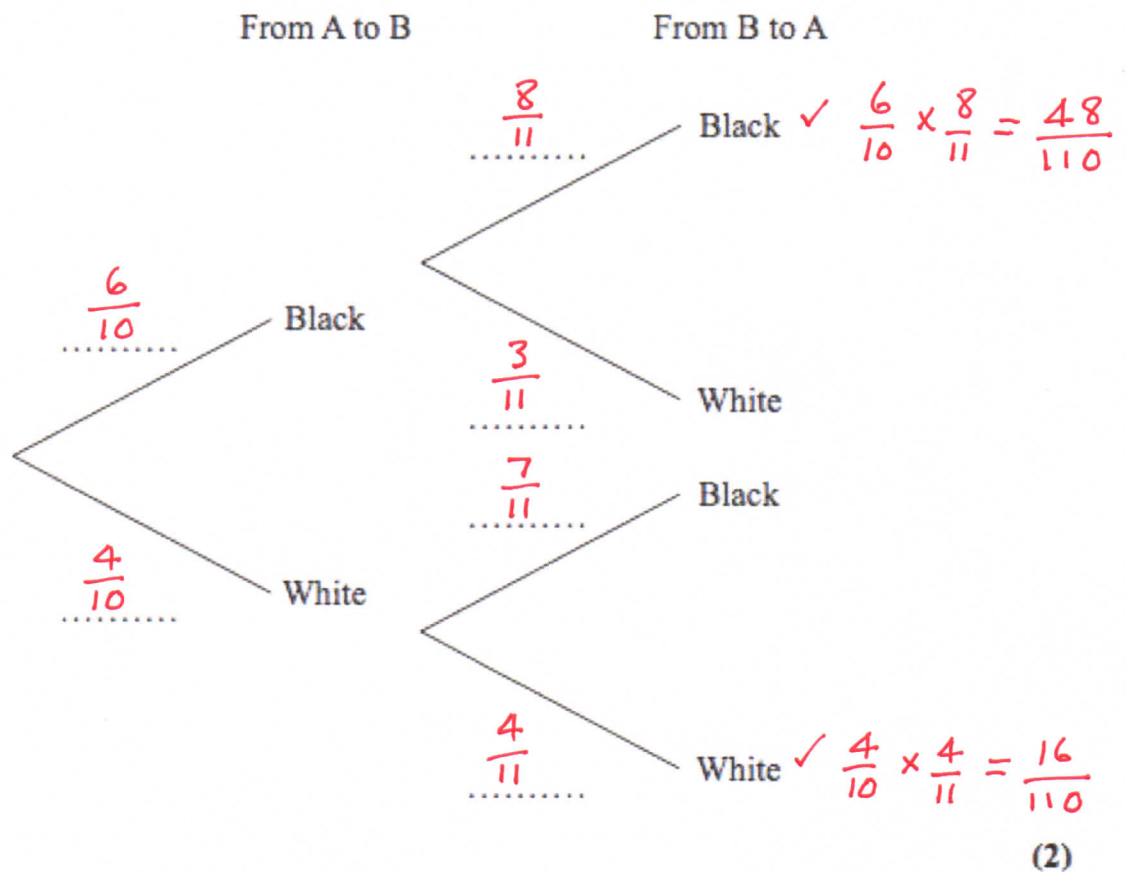
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(a) Complete the probability tree diagram.



(b) Find the probability that after Jan has put the counter from box B into box A there will still be 6 black counters and 4 white counters in box A.

For number of black and white counters to remain unchanged, we need black-black or white-white

$$\frac{48}{110} + \frac{16}{110} = \frac{64}{110} \text{ or } \frac{32}{55}$$

$$\frac{32}{55}$$

(4)