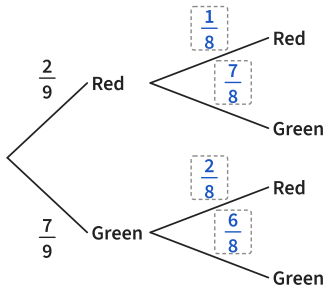
Conditional probability: tree diagrams

Exit ticket ANSWERS Name _____

1 A bag has 2 red and 7 green counters. Two are taken without replacement. Fill in the tree diagram.



2 Find the probability of one counter of each colour.

$\frac{28}{72} = \frac{7}{18}$

3 Find the probability that at least one is red.

$\frac{30}{72} = \frac{5}{12}$

The Maths Habit

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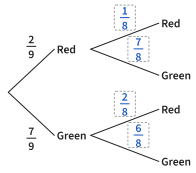
Exit ticket Conditional probability: tree diagrams

NEXT LESSON

1 **A bag has 2 red and 7 green counters. Two are taken without replacement. Fill in the tree diagram.**

$\frac{1}{8}, \frac{7}{8}, \frac{2}{8}, \frac{6}{8}$



TESTS The second branches: one counter fewer

LOOK FOR

$\frac{2}{9}, \frac{7}{9}$ *again* the second branches copied from the first: the counter was put back

$\frac{1}{9}$ *after red* the red taken off, but not the total

FIX IT

A bag has 5 red and 6 green counters.
A green is taken and not put back.
Find the probabilities on the next two branches.

red $\frac{5}{10}$, *green* $\frac{5}{10}$

---

2 **Find the probability of one counter of each colour.**

$\frac{28}{72} = \frac{7}{18}$

TESTS One of each: two routes, added

LOOK FOR

$\frac{14}{72}$ one route only: green then red is a way too

$\frac{28}{81}$ the first counter put back

FIX IT

Use the same bag of 5 red and 6 green. Find the probability of one counter of each colour.

$\frac{60}{110} = \frac{6}{11}$

---

3 **Find the probability that at least one is red.**

$\frac{30}{72} = \frac{5}{12}$

TESTS At least one: three routes, or 1 minus none

LOOK FOR

$\frac{2}{72}$ both red only

$\frac{28}{72}$ exactly one red: the red, red route left out

FIX IT

Use the same bag of 5 red and 6 green. Find the probability that at least one is red.

$\frac{80}{110} = \frac{8}{11}$