

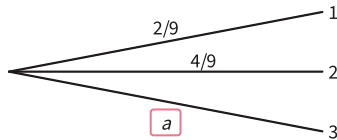
Probability trees: which step breaks?

ANSWERS

Name _____

- 1 A spinner lands on 1, 2 or 3. Find the missing probability, a .

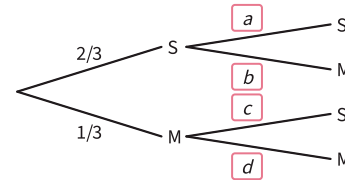
STEP 1: BRANCHES ADD TO 1 • FIX IT CARD 1



$$a = \frac{1}{3}$$

- 2 Two independent penalties: score (S) or miss (M). Find a , b , c and d .

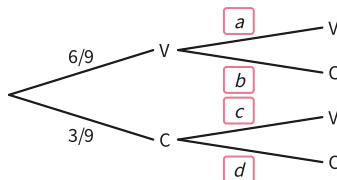
STEP 2: INDEPENDENT EVENTS • FIX IT CARD 2



$$a = \frac{2}{3}, b = \frac{1}{3}, c = \frac{2}{3}, d = \frac{1}{3}$$

- 3 Tiles: 6 vowels (V), 3 consonants (C). Two taken without replacement. Find a , b , c and d .

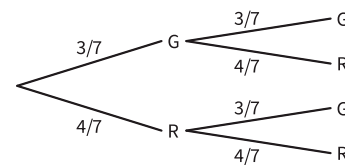
STEP 3: WITHOUT REPLACEMENT • FIX IT CARD 3



$$a = \frac{5}{8}, b = \frac{3}{8}, c = \frac{6}{8}, d = \frac{2}{8}$$

- 4 A traffic light is green (G) or red (R) on two days. Find $P(\text{red then green})$.

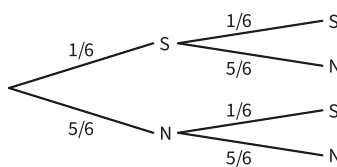
STEP 4: MULTIPLY ALONG • FIX IT CARD 4



$$\frac{12}{49}$$

- 5 A dice is rolled twice: six (S) or not (N). Which paths give exactly one six?

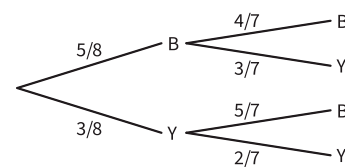
STEP 5: WHICH PATHS? • FIX IT CARD 5



SN and NS

- 6 Two pegs, blue (B) or yellow (Y), taken without replacement. Find $P(\text{both the same colour})$.

STEP 6: ADD THE PATHS • FIX IT CARD 6



$$\frac{13}{28}$$

- 7 A printer jams with probability $\frac{1}{6}$ on each job, whatever happened before. Find the probability it jams at least once in two jobs.

STEP 7: AT LEAST ONE • FIX IT CARD 7

$$\frac{11}{36}$$

The first question wrong is the step that breaks. Give that student its fix it card.

The Maths Habit