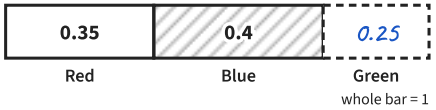
Probabilities that Add to 1

ANSWERS

1

A spinner lands on red, blue or green.
Find P(green).

Outcome	Red	Blue	Green
Probability	0.35	0.4	0.25



1 − (0.35 + 0.4)

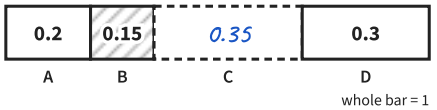
= 1 − 0.75

Answer 0.25

2

A biased spinner lands on A, B, C or D.
Find P(C).

Outcome	A	B	C	D
Probability	0.2	0.15	0.35	0.3



1 − (0.2 + 0.15 + 0.3)

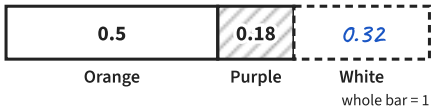
= 1 − 0.65

Answer 0.35

3

A bag holds orange, purple and white counters. One is taken at random.
Find P(white).

Colour	Orange	Purple	White
Probability	0.5	0.18	0.32



1 − (0.5 + 0.18)

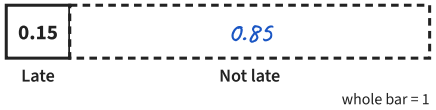
= 1 − 0.68

Answer 0.32

4

The probability that Kofi's bus is late is 0.15.
Find P(not late).

Outcome	Late	Not late
Probability	0.15	0.85



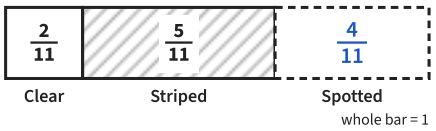
1 − 0.15

Answer 0.85

5

A bag holds clear, striped and spotted marbles. One is taken at random.
Find P(spotted).

Marble	Clear	Striped	Spotted
Probability	$\frac{2}{11}$	$\frac{5}{11}$	$\frac{4}{11}$



$1 - \frac{7}{11} = \frac{4}{11}$

Answer $\frac{4}{11}$

6

A cat sleeps in its bed, on the sofa or on the windowsill. The table shows the probabilities. Find the probability it sleeps on the windowsill.

Place	Bed	Sofa	Windowsill
Probability	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{5}{8}$

$\frac{1}{4} = \frac{2}{8}$, so $1 - (\frac{2}{8} + \frac{1}{8})$

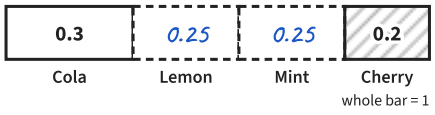
$= 1 - \frac{3}{8} = \frac{5}{8}$

Answer $\frac{5}{8}$

7

A jar holds cola, lemon, mint and cherry sweets. Lemon and mint are equally likely. Find P(mint).

Flavour	Cola	Lemon	Mint	Cherry
Probability	0.3	0.25	0.25	0.2



1 − (0.3 + 0.2) = 0.5

0.5 ÷ 2 = 0.25

Answer 0.25

8

A spinner lands on A, B or C. B and C are equally likely. Sam says P(B) = 1 − 0.4 = 0.6.
Explain Sam's mistake. Then find P(B).

Outcome	A	B	C
Probability	0.4	0.3	0.3

0.4 + 0.6 + 0.6 = 1.6, more than 1

0.6 is B and C together

P(B) = 0.3

Probabilities that Add to 1 *further practice*

ANSWERS

9

A spinner has five sections numbered 1 to 5. The table shows the probabilities. Find the probability it lands on 3.

Number	1	2	3	4	5
Probability	0.12	0.3	0.25	0.25	0.08

$1 - 0.75 = 0.25$

Answer: 0.25

10

The probability that Jamal's train is late is 0.08. What is the probability that it is not late?

$1 - 0.08$

Answer: 0.92

11

Ines has pasta, curry or salad for lunch. The table shows the probabilities. Find the probability she has salad.

Lunch	Pasta	Curry	Salad
Probability	$\frac{1}{2}$	$\frac{1}{3}$	$\frac{1}{6}$

$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$, so $1 - \frac{5}{6}$

Answer: $\frac{1}{6}$

12

A bag holds only red, blue and yellow beads. P(red) = $\frac{1}{2}$. Blue and yellow are equally likely. Find P(yellow).

$1 - \frac{1}{2} = \frac{1}{2}$, and half of $\frac{1}{2}$

Answer: $\frac{1}{4}$

13

Each spinner lands on red, blue or green. Which spinner is more likely to land on green? Show how you know.

Spinner A

Outcome	Red	Blue	Green
Probability	0.3	0.45	0.25

Spinner B

Outcome	Red	Blue	Green
Probability	$\frac{2}{5}$	$\frac{2}{5}$	$\frac{1}{5}$

A: 0.25, B: $\frac{1}{5} = 0.2$

Answer: Spinner A

14

A biased spinner lands on A, B, C or D. Find the probability that it does not land on C.

Outcome	A	B	C	D
Probability	0.2		0.35	0.1

$1 - 0.35 = 0.65$

Answer: 0.65

15

A spinner lands on red, blue, green or yellow. Blue, green and yellow are equally likely. Find P(green).

Colour	Red	Blue	Green	Yellow
Probability	0.4	0.2	0.2	0.2

$1 - 0.4 = 0.6$, and $0.6 \div 3$

Answer: 0.2

16

A bag holds only red and blue counters. P(red) = 0.6. Noah says P(blue) = 0.6 as well, because there are two colours. Is Noah right? Explain.

they must add to 1, and $0.6 + 0.6 = 1.2$

Answer: No, P(blue) = 0.4