Probability from Two-Way Tables

ANSWERS

1

The table shows 40 people at a park run.
One person is picked at random.
Find the probability of picking a child who walked.

	Ran	Walked	Total
Adult	18	5	23
Child	11	6	17
Total	29	11	40

P = 6 / 40 (6: the ones you want; 40: everyone)

Answer $\frac{3}{20}$

2

The table shows 50 phones in a shop.
One phone is picked at random.
Find the probability of picking a refurbished phone that is silver.

	Black	Silver	Total
New	14	13	27
Refurbished	17	6	23
Total	31	19	50

P = 6 / 50 (6: the ones you want; 50: everyone)

Answer $\frac{3}{25}$

3

The table shows 60 meals sold at a café.
One meal is picked at random.
Find the probability that it is a fish meal.

	Veggie	Meat	Fish	Total
Lunch	12	15	7	34
Dinner	9	11	6	26
Total	21	26	13	60

P = 13 / 60 (13: the ones you want; 60: everyone)

Answer $\frac{13}{60}$

4

The table shows 36 dogs at a rescue centre.
One dog is picked at random.
Find the probability that it is a puppy.

	Small	Large	Total
Puppy	5	7	12
Adult	10	14	24
Total	15	21	36

P = 12 / 36 (12: the ones you want; 36: everyone)

Answer $\frac{1}{3}$

5

The table shows 80 tickets sold for a school show. Complete the table.
One ticket is picked at random.
Find the probability that it is a child ticket for Thursday.

	Thursday	Friday	Total
Adult	22	23	45
Child	16	19	35
Total	38	42	80

80 − 45 = 35, 35 − 19 = 16, so $\frac{16}{80}$

Answer $\frac{1}{5}$

6

The table shows the language 50 Year 11 students study. A boy is picked at random.
Find the probability that he studies Spanish.

	French	Spanish	German	Total
Boys	9	11	4	24
Girls	8	12	6	26
Total	17	23	10	50

out of the 24 boys: $\frac{11}{24}$

Answer $\frac{11}{24}$

7

The table shows the lunches of 60 students.
One student is picked at random.
Find the probability of picking a Year 9 student with a packed lunch.

	Hot	Packed	Total
Year 7	14	10	24
Year 8	9	12	21
Year 9	8	7	15
Total	31	29	60

$\frac{7}{60}$

Answer $\frac{7}{60}$

8

The table shows 40 members of a cycling club.
One member is picked at random. Leo says the probability of picking a junior who rides on roads is $\frac{9}{16}$. Explain Leo's mistake.
Then find the probability.

	Road	Mountain	Total
Junior	9	7	16
Senior	14	10	24
Total	23	17	40

16 is only the juniors, not everyone

out of all 40 members

Answer $\frac{9}{40}$

Probability from Two-Way Tables *further practice*

ANSWERS

9

The table shows 50 cars in a car park.
One car is picked at random.
Find the probability that it is electric.

	Electric	Petrol	Total
Black	7	11	18
White	9	8	17
Red	4	11	15
Total	20	30	50

$\frac{20}{50}$

Answer $\frac{2}{5}$

10

A baker sold 85 loaves of bread.
Complete the table. One loaf is picked at random. Find the probability that it is seeded.

	White	Brown	Seeded	Total
Morning	18	14	13	45
Afternoon	20	11	9	40
Total	38	25	22	85

$13 + 9 = 22$, so $\frac{22}{85}$

Answer $\frac{22}{85}$

11

70 people voted for a new feature in a park. A person aged 18 or over is picked at random. Find the probability that they voted for the pond.

	Skate park	Pond	Play area	Total
Under 18	16	5	9	30
18 and over	8	20	12	40
Total	24	25	21	70

out of the 40 aged 18 or over: $\frac{20}{40}$

Answer $\frac{1}{2}$

12

The table shows the sport 58 students chose in PE. A student who chose tennis is picked at random. Find the probability that they are in Year 11.

	Football	Netball	Tennis	Total
Year 10	13	10	7	30
Year 11	14	9	5	28
Total	27	19	12	58

out of the 12 who chose tennis: $\frac{5}{12}$

Answer $\frac{5}{12}$

13

A campsite had 80 guests. 45 stayed in tents and the rest in caravans. 28 of the guests in tents were adults. 50 of the guests were adults. Complete the table.
One guest is picked at random.
Find the probability of picking a child who stayed in a caravan.

	Tent	Caravan	Total
Adult	28	22	50
Child	17	13	30
Total	45	35	80

$\frac{13}{80}$

Answer $\frac{13}{80}$

14

The table shows 52 drinks sold at a museum café. One drink is picked at random. Is it more likely to be a tea, or a coffee for a visitor? Show how you know.

	Tea	Coffee	Juice	Total
Staff	9	12	4	25
Visitor	6	10	11	27
Total	15	22	15	52

$\frac{15}{52}$ and $\frac{10}{52}$

Answer A tea

15

Class A has 30 students and Class B has 40.
One student is picked at random from each class. From which class is the student more likely to be a left-handed girl?
Show how you know.

Class A	Left	Right	Total
Girls	3	12	15
Boys	2	13	15

Class B	Left	Right	Total
Girls	5	15	20
Boys	4	16	20

$\frac{3}{30} = \frac{1}{10}$ and $\frac{5}{40} = \frac{1}{8}$

Answer Class B

16

The table shows where 40 friends went on a trip. One friend is picked at random.
Ava says the probability of picking a boy is $\frac{1}{2}$, because there are two rows.
Is Ava right? Explain.

	Cinema	Bowling	Total
Boys	9	9	18
Girls	10	12	22
Total	19	21	40

18 boys out of 40, not 1 out of 2

Answer No, it is $\frac{9}{20}$