

Probability and ratio

1

Red and blue counters in a bag are in the ratio 3 : 5. A counter is taken at random. Find the probability that it is blue.

Total parts $3 + 5 = 8$
 Parts wanted 5
 Probability $\frac{5}{8}$

Answer _____

2

Lemon and orange sweets in a jar are in the ratio 2 : 7. A sweet is taken at random. Find the probability that it is lemon.

Total parts $2 + 7 = 9$
 Parts wanted 2
 Probability $\frac{2}{9}$

Answer _____

3

Red, green and yellow beads in a box are in the ratio 1 : 3 : 4. A bead is taken at random. Find the probability that it is not green.

Total parts $1 + 3 + 4 = 8$
 Parts wanted $1 + 4 = 5$
 Probability $\frac{5}{8}$

Answer _____

4

The ratio of cats to dogs at an animal shelter is 5 : 4. An animal is chosen at random. Find the probability that it is a dog.

Probability $\frac{4}{9}$

Answer _____

5

The probability that a counter taken from a bag is red is $\frac{2}{7}$. The rest are blue. Write the ratio of red to blue counters.

Answer _____

6

A bag holds 24 counters, red and blue in the ratio 3 : 5. Then 4 more red counters are put in. Find the probability that a counter taken at random now is red.

Answer _____

7

A spinner lands on red with probability 0.3 and on blue with probability 0.5. Otherwise it lands on green. Write the ratio red : blue : green in its simplest form.

Answer _____

8

A club has 36 members, boys and girls in the ratio 4 : 5. Then 3 boys leave. A member is chosen at random. Find the probability that it is a girl.

Answer _____

Probability and ratio *further practice*

9

Milk and dark chocolates in a box are in the ratio 7 : 3. A chocolate is taken at random. Find the probability that it is dark.

Answer _____

10

Red, white and blue flags are in the ratio 2 : 3 : 5. A flag is chosen at random. Find the probability that it is not white.

Answer _____

11

The probability of taking a green pen from a pot is $\frac{3}{8}$. There are 15 green pens. Write the ratio of green pens to other pens, and find how many other pens there are.

Answer _____

12

Blue and yellow beads are in the ratio 4 : 1. A bead is taken at random. Write the probability that it is blue as a decimal.

Answer _____

13

Red and black buttons in a tin are in the ratio 2 : 3. When 10 red buttons are added, a button taken at random is equally likely to be red or black. How many black buttons are there?

Answer _____

14

A game cannot be drawn. The ratio P(win) : P(lose) is 2 : 3. Find the probability of a win.

Answer _____

15

A spinner lands on A, B or C. $P(A) = \frac{1}{4}$ and $P(B) = \frac{1}{3}$. Write $P(A) : P(B) : P(C)$ in its simplest form.

Answer _____

16

Red and blue counters are in the ratio 2 : 3. Sam says the probability of taking a red counter is $\frac{2}{3}$. Explain his mistake and give the right probability.

Answer _____