

Calculate the theoretical probability of a simple event

NAME	DATE	SCORE / 10
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- 1** A bag holds 1 blue, 2 green and 6 yellow marbles. Give the probability of picking a green marble at random, as a fraction.

- 2** A bag holds 5 blue, 3 yellow and 2 green marbles. What is the probability of picking a green marble at random?

☐ $\frac{4}{5}$
☐ $\frac{1}{5}$
☐ $\frac{1}{3}$
☐ $\frac{1}{4}$

- 3** Emma wins if a red marble is picked at random, and Ben wins if a blue one is picked. Which bag makes the game fair?

- ☐ A bag with 4 red, 6 blue and 2 green marbles
☐ A bag with 6 red, 6 blue and 1 green marbles
☐ A bag with 5 red, 6 blue and 1 green marbles

- 4** A bag holds 5 yellow, 2 blue and 1 green marbles. Give the probability of picking a blue marble at random, as a decimal.

- 5** A bag holds 3 red, 2 green and 3 yellow marbles. What is the probability of picking a yellow marble at random?

☐ $\frac{5}{8}$
☐ $\frac{3}{5}$
☐ $\frac{1}{3}$
☐ $\frac{3}{8}$

6

Ana wins if a red marble is picked at random. Which bag gives Ana the best chance of winning?

- ☐ A bag with 5 red and 4 blue marbles ☐ A bag with 4 red and 3 blue marbles
☐ A bag with 3 red and 7 blue marbles

7

A bag holds 5 blue, 1 yellow and 4 red marbles. Give the probability of picking a blue marble at random, as a percentage.

8

A spinner has 5 equal parts: 3 red, 1 yellow and 1 green. What is the probability of the spinner landing on red?

- ☐ $\frac{3}{2}$ ☐ $\frac{2}{5}$ ☐ $\frac{3}{5}$ ☐ $\frac{1}{3}$

9

A spinner has 12 equal parts: 1 green, 8 yellow and 3 red. Give the probability of the spinner landing on red, as a fraction.

10

A fair number cube has faces 1 to 6. Give the probability of rolling a number less than 3, as a fraction.

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1 $\frac{2}{9}$

2 $\frac{1}{5}$

3 A bag with 6 red, 6 blue
and 1 green marbles

4 0.25

5 $\frac{3}{8}$

6 A bag with 4 red and 3
blue marbles

7 50%

8 $\frac{3}{5}$

9 $\frac{1}{4}$

10 $\frac{1}{3}$