

## Probability 2

When determining the probability of something happening we can use words or numbers. When using numbers we can express the probability of an event taking place by using fractions.

When using this method, first calculate the possible outcomes. Use this as the **denominator**. Then calculate the number of possible favourable outcomes. Use this as the **numerator**.

For example: What is the probability of rolling a 6 on a die?

Possible outcomes = 6                      Possible favourable outcomes = 1

Therefore the probability will be  $\frac{1}{6}$

Now try calculating these probabilities using the same method. (And don't forget to simplify your fraction where possible.)

1. There are 10 pencils in a box. 4 are blue, 5 are green, 1 is red.

Probability of picking a blue pencil = \_\_\_\_\_

Probability of picking a green pencil = \_\_\_\_\_

Probability of picking a red pencil = \_\_\_\_\_

2. There are 4 oranges, 7 bananas, 6 apples and 3 pears in a bowl

Probability of picking an orange = \_\_\_\_\_

Probability of picking a banana = \_\_\_\_\_

Probability of picking an apple or a pear = \_\_\_\_\_

Probability of picking a non yellow fruit = \_\_\_\_\_

Probability of picking a fruit which needs peeling = \_\_\_\_\_

3. In a class of children 5 like playing tennis, 14 like football, 3 like jumping, 4 like golf, and 4 like chess. A new teacher comes into the class to meet the children. Imagine you walk into the class and meet the children randomly.

Probability of meeting someone who likes football = \_\_\_\_\_

Probability of meeting someone who plays sport with a ball = \_\_\_\_\_

Probability of meeting someone who likes sitting down to play = \_\_\_\_\_

Probability of meeting someone who likes tennis or chess = \_\_\_\_\_

4. In a city, 12 people own bicycles, 45 own cars, 10 own trucks, 7 own power boats, 18 own no transport, and 8 own skateboards. If you visit the city on an average day...

Probability you will see a car = \_\_\_\_\_

Probability you will see someone with no transport = \_\_\_\_\_

Probability you will see a vehicle with wheels = \_\_\_\_\_

Probability you will see a vehicle with no engine = \_\_\_\_\_

Probability you will see someone moving without wheels = \_\_\_\_\_

5. On a farm there are 6 chickens, 4 pigs, 8 cows and 7 sheep.

Probability you will see an animal with four legs = \_\_\_\_\_

Probability you will see a sheep = \_\_\_\_\_

Probability you will see an animal with two legs = \_\_\_\_\_

Probability you will see an animal that gives us milk = \_\_\_\_\_

## ANSWERS

$$1. \text{ blue pencil} = \frac{4}{10} = \frac{2}{5}$$

$$\text{green pencil} = \frac{5}{10} = \frac{1}{2}$$

$$\text{red pencil} = \frac{1}{10}$$

$$2. \text{ orange} = \frac{4}{20} = \frac{1}{5}$$

$$\text{banana} = \frac{7}{20}$$

$$\text{apple/pear} = \frac{9}{20}$$

$$\text{non yellow fruit} = \frac{13}{20}$$

$$\text{fruit that needs peeling} = \frac{11}{20}$$

$$3. \text{ football} = \frac{14}{30} = \frac{7}{15}$$

$$\text{sport with a ball} = \frac{23}{30}$$

$$\text{sitting} = \frac{4}{30} = \frac{2}{15}$$

$$\text{tennis or chess} = \frac{9}{30}$$

$$4. \text{ car} = \frac{45}{100} = \frac{9}{20}$$

$$\text{pedestrian} = \frac{18}{100} = \frac{9}{50}$$

$$\text{vehicles with wheels} = \frac{75}{100} = \frac{3}{4}$$

$$\text{vehicle with no engine} = \frac{20}{100} = \frac{1}{5} \text{ (pedestrians are not vehicles)}$$

$$\text{vehicle with no wheels} = \frac{7}{100}$$

$$5. \text{ animal with four legs} = \frac{19}{25}$$

$$\text{sheep} = \frac{7}{25}$$

$$\text{animal with two legs} = \frac{6}{25}$$

$$\text{animal that gives milk} = \frac{8}{25}$$