Calculate probabilities from equally likely events

Maths

Mrs Dennett

Calculate probabilities from equally likely events

1. A six-sided fair dice is rolled. What is the probability of each event?

- rolling a 4
- rolling a 7
- rolling an odd number
- not rolling a 4
- rolling a multiple of 3
- rolling a square number
- rolling a number more than 1

2. A bag contains some coloured counters.

4 counters are red and 2 are yellow. Work out the probability of selecting a yellow counter.

3. A spinner has 10 sections. Colour in the spinner so that
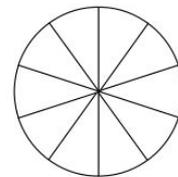
$$P(red) = \frac{3}{10} \quad P(blue) = \frac{1}{5} \quad P(green) = 0.5$$

Calculate probabilities from equally likely events

4. There are 12 counters in a box.

$$P(\text{orange counter}) = \frac{5}{12}$$

$$P(\text{yellow counter}) = \frac{1}{4}$$

$$P(\text{white counter}) = \frac{1}{3}$$

a) How many of each colour counter are in the box?

b) Julia says she is more likely to get an orange counter than not get an orange counter. Explain why she is incorrect.

c) How many counters does she need to select from the box to definitely get an orange counter?

Answers

Calculate probabilities from equally likely events

1. A six-sided fair dice is rolled. What is the probability of each event?

- rolling a 4 $\frac{1}{6}$
- rolling a 7 0
- rolling an odd number $\frac{3}{6}$
- not rolling a 4 $\frac{5}{6}$
- rolling a multiple of 3 $\frac{2}{6}$
- rolling a square number $\frac{2}{6}$
- rolling a number more than 1 $\frac{5}{6}$

2. A bag contains some coloured counters.

4 counters are red and 2 are yellow. Work out the probability of selecting a yellow counter. $\frac{1}{3}$

3. A spinner has 10 sections. Colour in the spinner so that
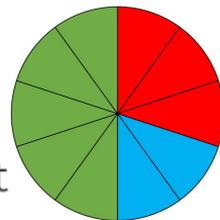
P(red) = $\frac{3}{10}$ P(blue) = $\frac{1}{5}$ P(green) = 0.5

Calculate probabilities from equally likely events

4. There are 12 counters in a box.

$$P(\text{orange counter}) = \frac{5}{12}$$

$$P(\text{yellow counter}) = \frac{1}{4}$$

$$P(\text{white counter}) = \frac{1}{3}$$

a) How many of each colour counter are in the box?

5 orange, 3 yellow and 4 white

b) Julia says she is more likely to get an orange counter than not get an orange counter. Explain why she is incorrect.
More counters are not orange (7)

c) How many counters does she need to select from the box to definitely get an orange counter?   8