GCSE FOUNDATION · REVISION MAT 3

Probability scale and theoretical probability

1 Write down the word that best describes the probability of each event.

impossible · unlikely · even chance · likely · certain

(a) you pick a red card from a normal pack

(b) you roll a 6 on a dice

(c) a cat can fly

2 A bag contains these counters.



A counter is taken at random.

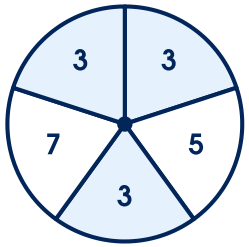
Work out the probability that it is blue.

3 Liv says,

"The probability of getting a 1 with a 4-sided spinner is $\frac{1}{4}$, so if I try 4 times I will get exactly one 1."

Explain why Liv is wrong.

4 Here is a fair spinner.



Show that the probability of landing on 3 is $\frac{3}{5}$.

5 A bag contains 4 red and 8 blue counters.

How many red counters must be added so that the probability of taking a red counter is $\frac{1}{2}$?

6 Cards are numbered 1 to 24. A card is taken at random.

(a) Work out P(prime number).

(b) Work out P(multiple of 5 **and** multiple of 2).

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1 (a) **even chance**
(b) **unlikely**
(c) **impossible**

2 3 out of 12

$\frac{1}{4}$

3 Probability tells you what is likely in the long run, not exactly what will happen.

You might get no 1s, or more than one.

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4 3 of the 5 equal sections show 3.

$\frac{3}{5} = \frac{3}{5}$ ✓

5 After adding x red: $\frac{4 + x}{12 + x} = \frac{1}{2}$

$x = 4$

Check: $\frac{8}{16} = \frac{1}{2}$ ✓

6 (a) Primes: 2, 3, 5, 7, 11, 13, 17, 19, 23

$\frac{3}{8}$

(b) 10, 20: $\frac{1}{12}$

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