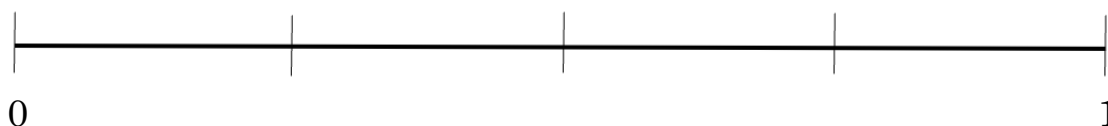# Probability Exam Practice

Q1. David chooses a number at random between 1 and 12 inclusive. Mark on the probability scale the events A, B, C and D where:

A is choosing an odd number   B is choosing a multiple of 15

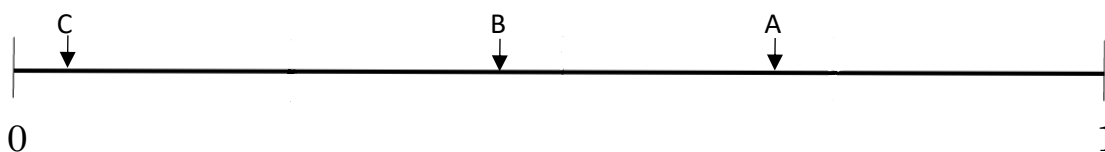C is choosing a prime number greater than 3

D choosing a number less than 10

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├─────────────┼─────────────┼─────────────┼─────────────┤
0                                                       1
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(4 marks)

Q2. A fair dice, numbered 1 to 6 in the usual way, is thrown. Work out the probability that a square number is rolled.
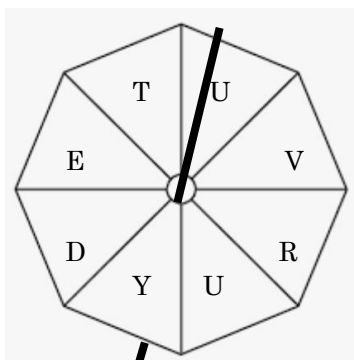
(2 marks)

Q3. Estimate the probability of each of the events A, B and C from the probability scale below:

```
     C                      B            A
     ↓                      ↓            ↓
├────────────────────────────────────────────────────┤
0                                                     1
```

(3 marks)

Q4. In the English language, a vowel is any of the letters A, E, I, O, or U.

Work out the probability that the spinner lands on:

     (i) an E

    (ii) any letter which is not a vowel

   (iii) the letter A

(3 marks)

Q5. The weather news on channel 1 states the probability of it snowing the next day is 35%, whereas the weather news on channel 2 states that the probability is $\frac{2}{5}$. Which channel thinks it is the least likely to snow? You must show your reasoning.

(2 marks)

Q6. Here is a list of numbers:

$$2, 4, 5, 8, 4, 3, 0, 10, 15, 18, 7, 14$$

A number is chosen at a random from the list, find the probability that it is:

(a) an even number

(1 mark)

(b) a number less than 4

(1 mark)

(c) a prime number

(1 mark)

Q7. A box contains 18 crayons. 6 are black, 3 are red, the rest are green. Work out the probability that a randomly selected crayon is:
a) green

(1 mark)

b) not black

(1 mark)

Q8. At a Christmas raffle, a total of 200 tickets are sold some of which will win the buyer a prize. The prizes on offer are three £25 prizes, two £50 prizes and one £100 prize. What is the probability that:
a) the buyer wins a £50 prize?

(1 mark)

b) the buyer does not win anything?

(1 mark)

Q9. There are red, green, blue and purple counters in a bag. A counter is picked at random from the bag. There are seven times as many purple counters as red counters in the bag.

a) Complete the probability table shown below:

Colour	Red	Green	Blue	Purple
Probability		0.1	0.3	

(1 mark)

b) Work out the probability of not choosing a blue counter.

(1 mark)

c) Rob counts all the counters in the bag and claims that there are 24 counters. Explain why this cannot be true.

(1 mark)