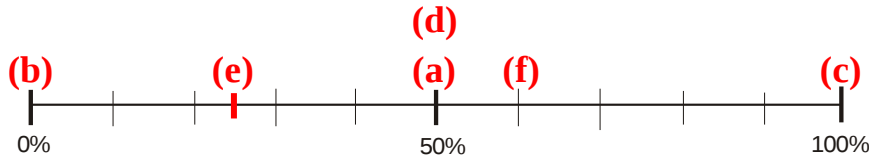


- (1) Indicate what the probability is that the following events will take place with an (a), (b), etc. on the numeric line:



- (a) A coin lands on “heads”.
- (b) When casting a die, it will land on a 0.
- (c) Tuesday will follow Monday.
- (d) A woman will give birth to her firstborn shortly – it will be a boy.
- (e) You draw a card from a pack of 52 playing cards – it is a heart. $\left(\frac{13}{52} = \frac{1}{4}\right)$
- (f) The weather bureau predicts a 60% chance for rain.

- (2) A spinner has five colours – red, yellow, green, blue and purple. What is the probability that the spinner will land on the following colour? Express the answer as a normal fraction in the simplest form.

- | | | | |
|---------------------------------|---------------|--------------|---------------|
| (a) Yellow: | $\frac{1}{5}$ | (b) Blue: | $\frac{1}{5}$ |
| (c) Black: | $\frac{0}{5}$ | (d) Not red: | $\frac{4}{5}$ |
| (e) One of the primary colours: | $\frac{3}{5}$ | | |
| (f) Purple or yellow: | $\frac{2}{5}$ | | |

- (3) A single die is cast.

- (a) What possible outcomes are there? $1 ; 2 ; 3 ; 4 ; 5 ; 6$
- (b) What is the chance that the face value will be the following?
Express the answer as a common fraction in the simplest form.
- (i) a 1: $\frac{1}{6}$
- (ii) an even number: $\frac{3}{6} = \frac{1}{2}$ $(2 ; 4 ; 6)$
- (iii) a compound number: $\frac{2}{6} = \frac{1}{3}$ $(4 ; 6)$

(4) You ask a friend to choose any number from 1 to 9. Express the answer as a percentage.

(a) What is the probability of each outcome?

$$\frac{1}{9} = 11,11 \dots \approx 11\%$$

(b) What is the chance that your friend will choose a multiple of 3?

$$\frac{3}{9} = \frac{1}{3} \approx 33\% \quad (3; 6; 9)$$

(c) What is the chance that your friend will choose a factor of 6?

$$\frac{4}{9} \approx 44\% \quad (1; 2; 3; 6)$$

(d) What is the chance that your friend will choose a perfect square?

$$\frac{3}{9} = \frac{1}{3} \approx 33\% \quad (1; 4; 9)$$

(e) What is the chance that your friend will choose a multiple of 10?

$$\frac{0}{9} \approx 0\% \quad (\text{No multiples of 10})$$

(f) What is the chance that your friend will choose an even number?

$$\frac{4}{9} \approx 44\% \quad (2; 4; 6; 8)$$

(g) What is the chance that your friend will choose an uneven number?

$$\frac{5}{9} \approx 56\% \quad (1; 3; 5; 7; 9)$$

(i) Is each possible outcome equally likely? Motivate.

Yes, there are nine possibilities and each has a 11,1% chance.

(j) Do an even number and uneven number have the same chance? Motivate.

No, there are more uneven numbers than even numbers. Thus is the chances to draw an uneven number better! See (f) and (g).