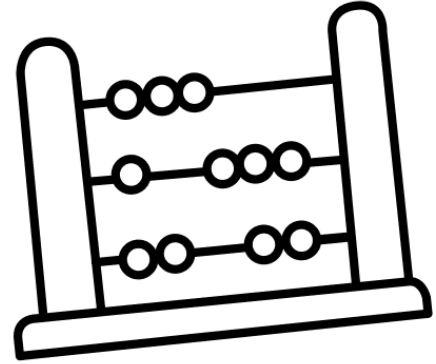


Miisaanka suurtagalnimada

Maths

Cutub: Itimaalka (Probability): natiijooyinka suurtagalka ah



Natiijo

Waxaan muujin karaa suurtagalnimada natiijada miisaan.

Erayada muhiimka ah

Natiijadu waa aan suurtagal ahayn (impossible) haddii aysan jirin wax suurtagal ah oo ay dhacdo.

Natiijadu waa hubaal (certain) haddii la dammaanad qaaday inay dhacdo.

Natiijadu waxay leedahay fursad siman (even chance) haddii suurtagalnimadeeda dhacdo ay la mid tahay suurtagalnimada aan dhacaynin.

Miisaanka suurtagalnimada



Soo bandhigida miisaanka suurtagalnimada

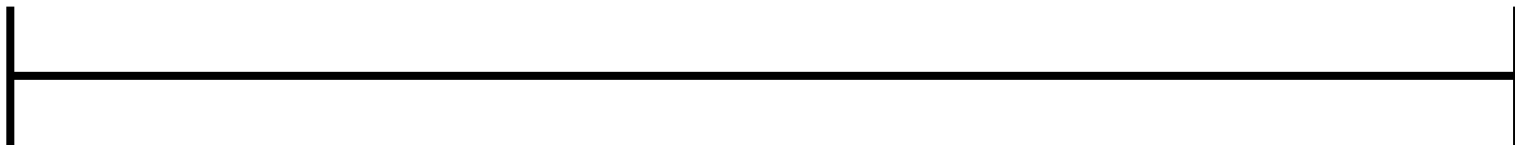


Isbarbardhigga suurtagalnimada dhacdooyinka miisaanka

Suurtagalnimada dhacdooyinka kala duwan waa la isbarbardhigi karaa oo lagu matali karaa miisaan suurtagalnimo.

Dhacdooyinka ay u badan tahay inay dhacaan waxay u gudbaan dhanka midig miisaanka, dhacdooyinka aan u badnayn inay dhacaan waxay u gudbaan dhanka bidix.

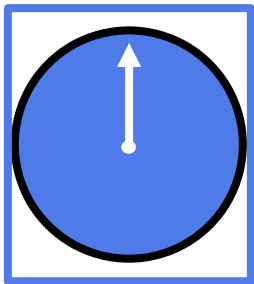
Tusaale: suurtagalnimada wareegyada kala duwan ee ku degaya 'guul' waxaa lagu matali karaa miisaan suurtagalnimo.



miisaan suurtagalnimo oo loogu talagalay wareegyada (spinners) ku degaya 'guul'

Natiijadu waa aan suurtagal ahayn (impossible) haddii aysan jirin wax suurtagal ah oo ay dhacdo.

Tusaale: waa aan suurtagal ahayn in wareeggan uu ku dego 'guul'.

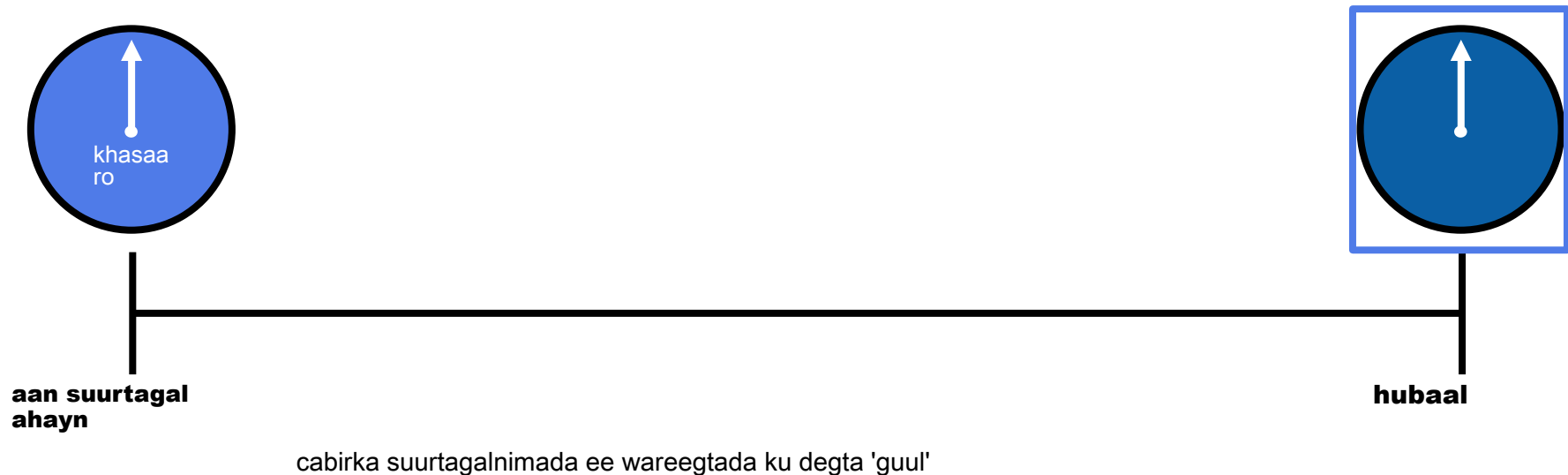


**aan suurtagal
ahayn**

miisaan suurtagalnimo oo loogu talagalay wareegyada (spinners) ku degaya 'guul'

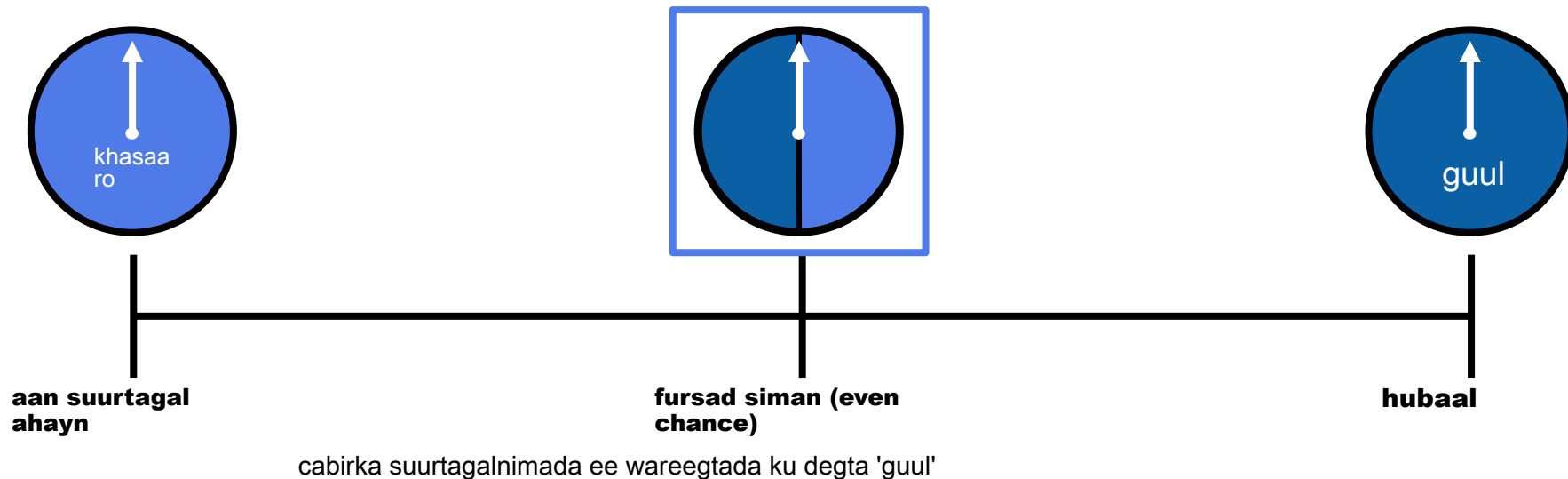
Natijadu waa hubaal (certain) haddii la dammaanad qaaday inay dhacdo.

Tusaale: waa hubaal in wareegtadan ay ku soo degto 'guul'.



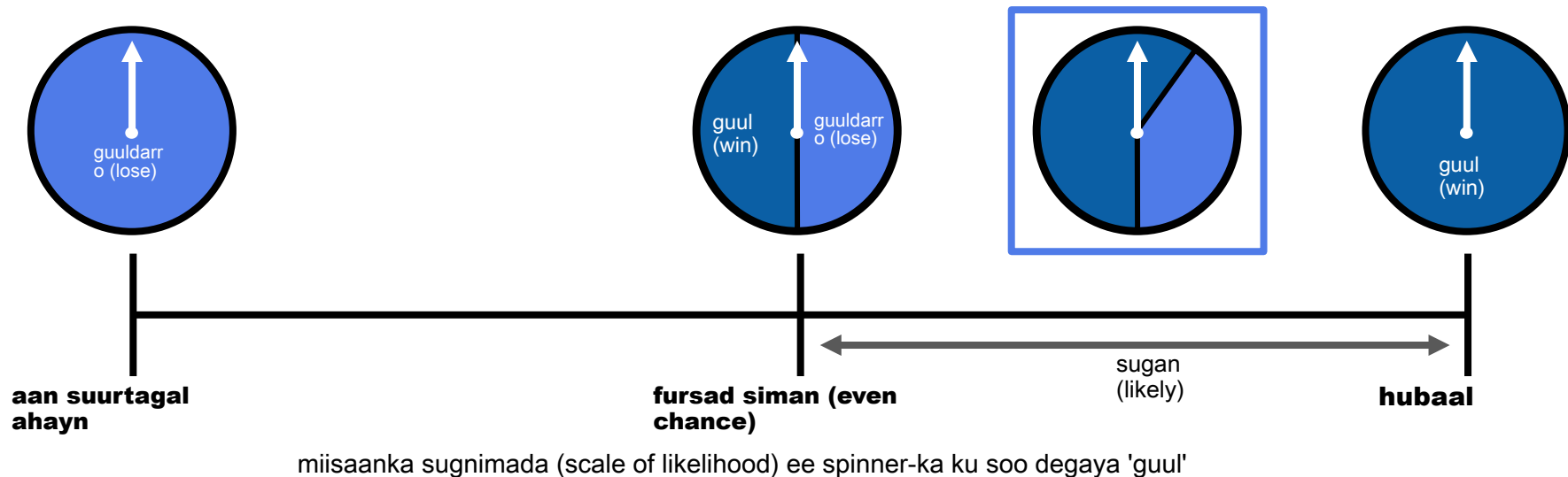
Natiijadu waxay leedahay fursad siman (even chance) haddii suurtagalnimada dhacdada ay la mid tahay suurtagalnimada aan dhacayn.

Tusaale: waxaa jira fursad siman (even chance) in wareegtadan ay ku soo degto 'guul'.



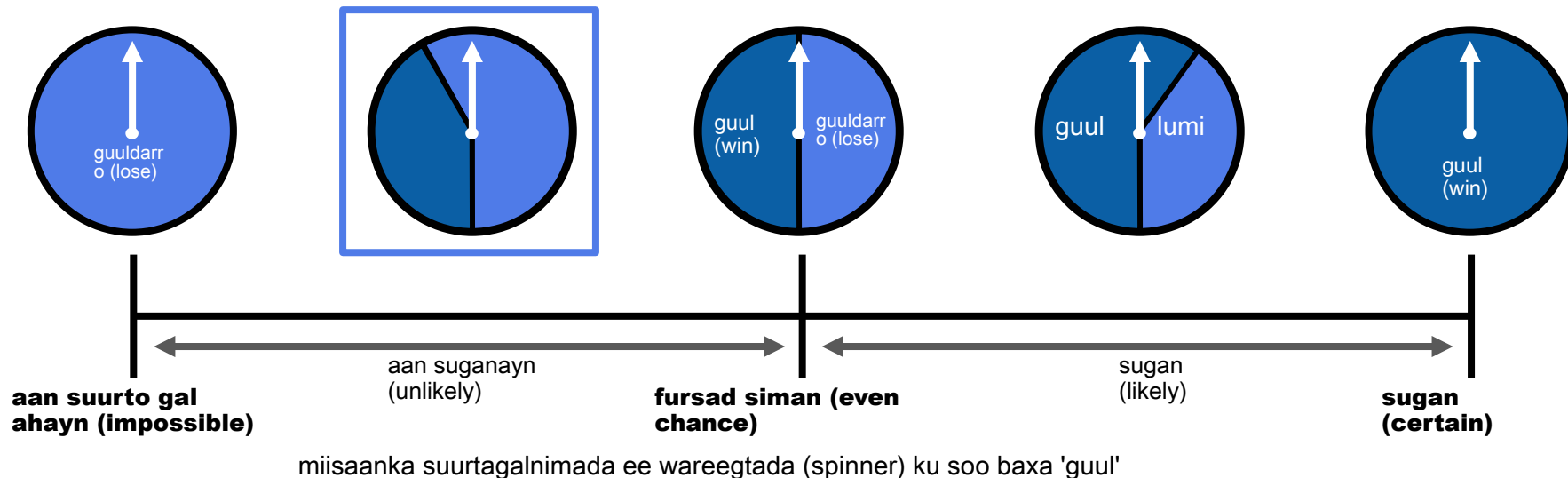
Natijada leh fursad ka weyn dhacdo marka loo eego aan dhacayn waxaa lagu tilmaami karaa inay tahay suurtagal (likely).

Tusaale: waxay sugan tahay in spinner-kani ku soo degayo 'guul'.



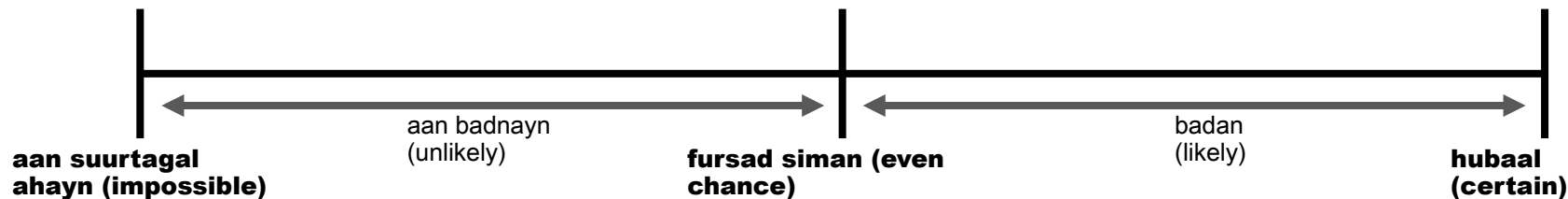
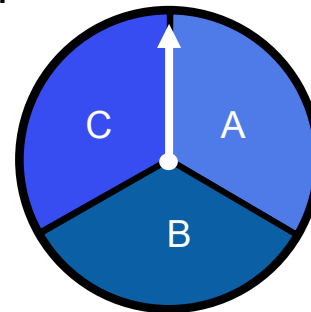
Natiijo fursad u yar inay dhacdo marka loo eego inayna dhicin waxaa lagu tilmaami karaa mid aan suganayn (unlikely).

Tusaale: ma badna in wareegtadan (spinner) ku soo baxdo 'guul'.



Cabdi wuxuu ka fikirayaa halka ay suurtagalnimada wareegtadan (spinner) ku soo baxda 'A' ku dhacdo miisaanka.

Waxaan u malaynayaa waa fursad siman (even chance) sababtoo ah wareegtadu waxay leedahay fursad siman oo ay ku soo baxdo xaraf kasta.



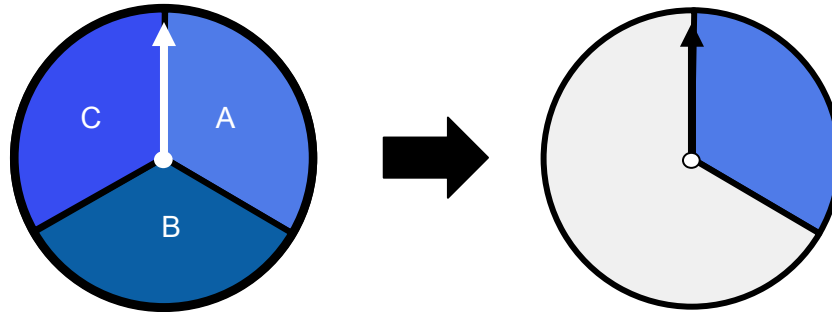
Soo bandhigida miisaanka suurtagalnimada

Fursad siman (equal chance) kuma eka fursad siman (even chance).

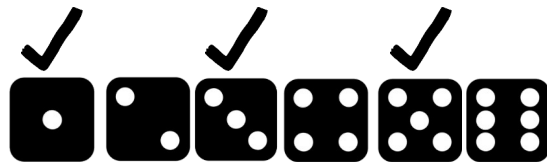
Waxaa jira fursad siman oo wareegtadu ku soo baxdo xaraf kasta sababtoo ah qaybaha (sectors) dhammaantood waa isku cabbir.

Laakiin suurtagalnimada in wareegtadu ku soo baxdo 'A' waa ka yar tahay fursadda aanay ku soo bixin 'A'.

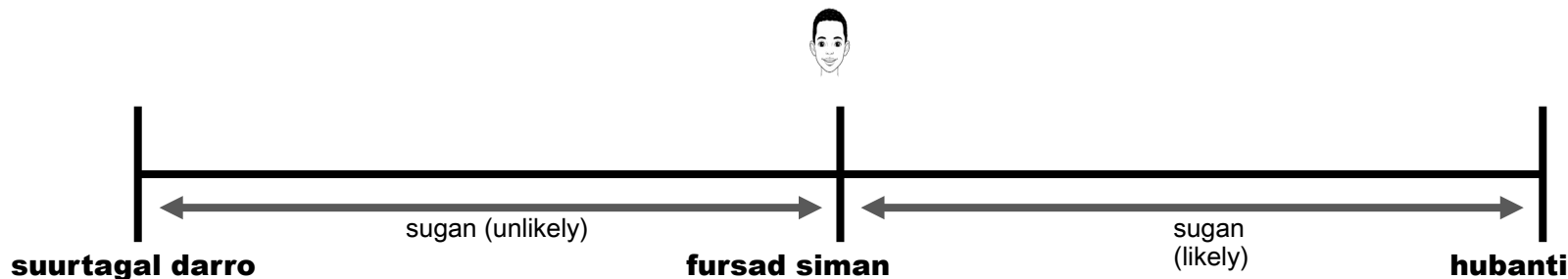
Suurtagalnimada ay ku soo baxdo 'A' waa ka yar tahay fursad siman (even chance), marka waa aan badnayn (unlikely).



Cali, Isra, Nuur, Layla iyo Saciid waxay ciyaarayaan ciyaar ku lug leh duufaanka (rolling) dhimasho (dice) caadi ah oo lix dhinac ah si loo go'aamiyo haddii aad dhaqaaqi karto.



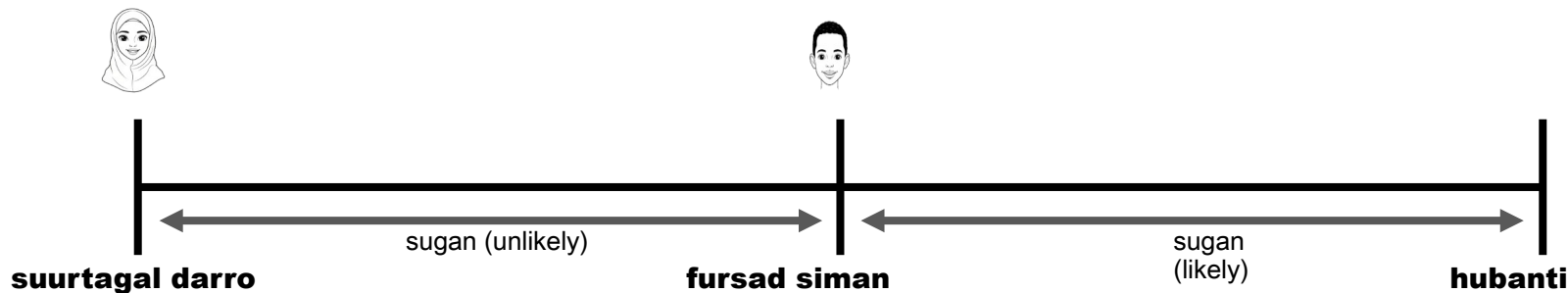
Cali wuu dhaqaaajin karaa galkiisa haddii uu duubo tiro khasaare ah.



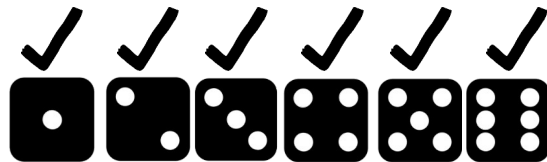
Cali, Isra, Nuur, Layla iyo Saciid waxay ciyaarayaan ciyaar ku lug leh duubista dice lix-geesoodka ah si loo go'aamiyo haddii aad dhaqaajin karto.



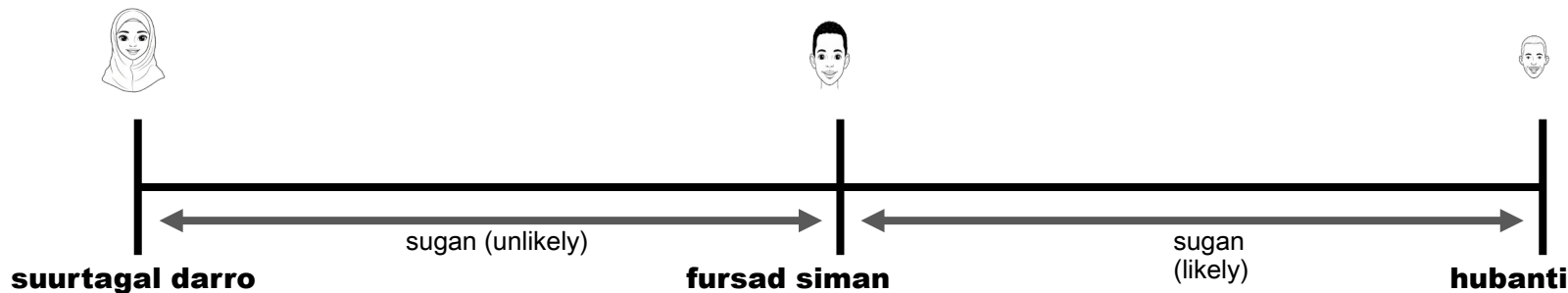
Isra waxay dhaqaajin kartaa galkeeda haddii ay duubto 7



Cali, Isra, Nuur, Layla iyo Saciid waxay ciyaarayaan ciyaar ku lug leh duubista dice lix-geesoodka ah si loo go'aamiyo haddii aad dhaqaajin karto.

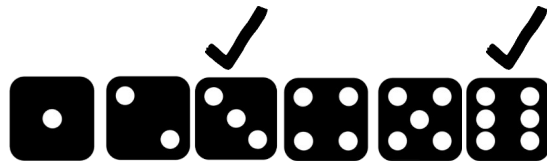


Nuur wuu dhaqaajin karaa galkiisa haddii uu duubo tiro isku-dhafan (integer).

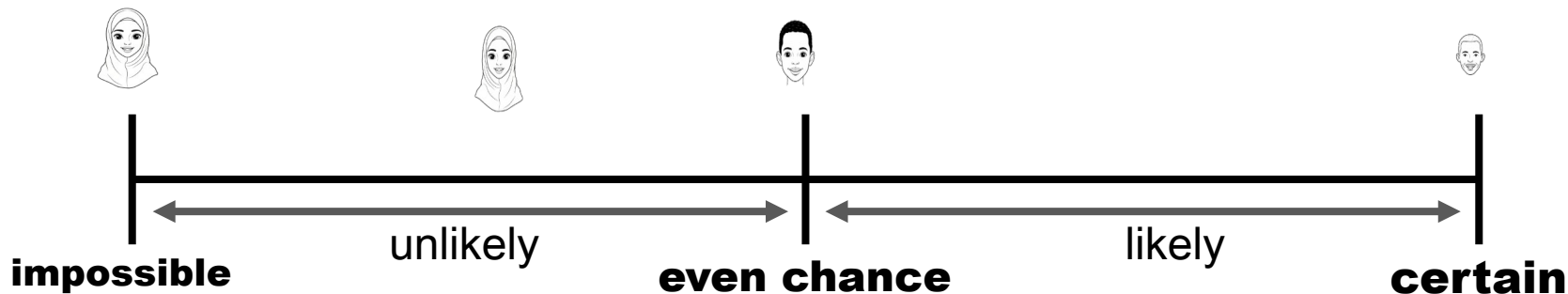


Soo bandhigida miisaanka suurtagalnimada

Andeep, Izzy, Jun, Laura iyo Sam waxay ciyaarayaan ciyaar ku lug leh duufaani (dice) lix geesood oo caadi ah si loo go'aamiyo inaad dhaqaaqi karto.

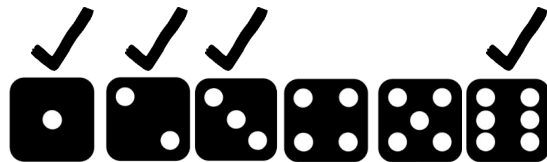


Laura waxay dhaqaaqi kartaa gabadheeda haddii ay duufaanto tiro ka mid ah 3 (multiple of 3).

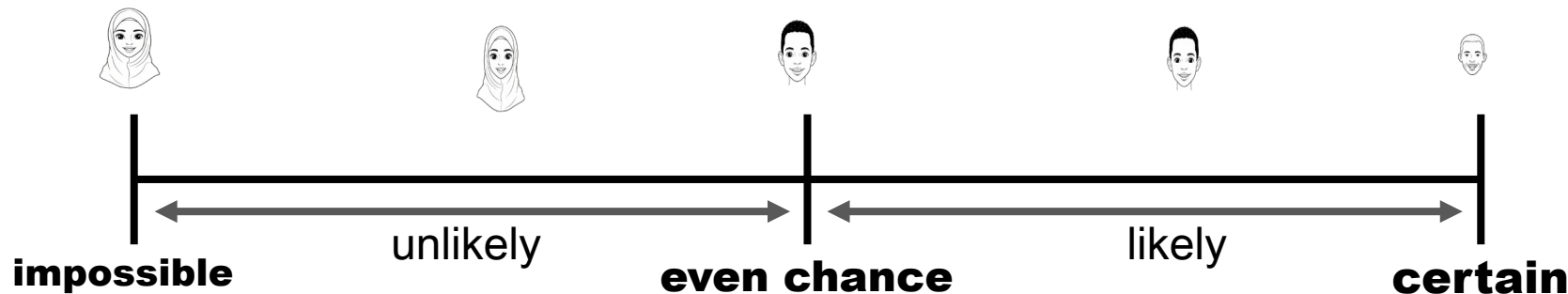


Soo bandhigida miisaanka suurtagalnimada (likelihoods).

Andeep, Izzy, Jun, Laura iyo Sam waxay ciyaarayaan ciyaar ku lug leh duufaani (dice) lix geesood oo caadi ah si loo go'aamiyo inaad dhaqaaqi karto.



Sam waxay dhaqaaqi kartaa gabadheeda haddii ay duufaanto qayb ka mid ah 6 (factor of 6).



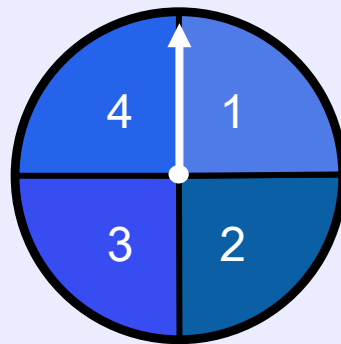
Soo bandhigida miisaanka suurtagalnimada (likelihoods).

Run mise been?

Waxaa jira fursad siman (even chance) in duufaanku ku soo baxo 1.

T Run

F Been



Sabab u sheeg jawaabtaada

- a** Duufaanku wuxuu u yar yahay inuu ku soo baxo 1 marka loo eego inuu ku soo baxo tiro ~~aan~~ ahayn 1.
- b** Duufaanku wuxuu si siman ugu dhici karaa tiro kasta.

Run mise been?

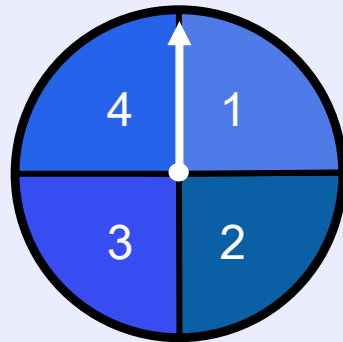
Waxaa jira fursad siman (even chance) in duufaanku ku soo baxo tiro aan caadi ahayn (odd number).



Run



Been



Sabab u sheeg jawaabtaada

a

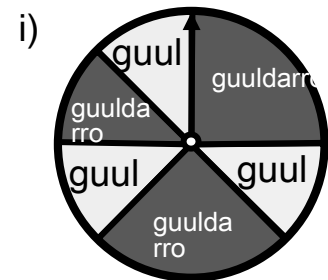
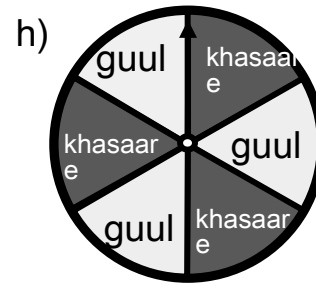
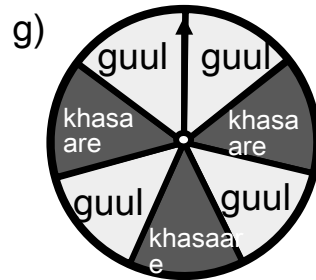
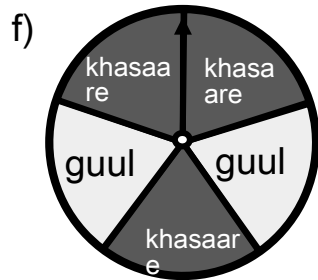
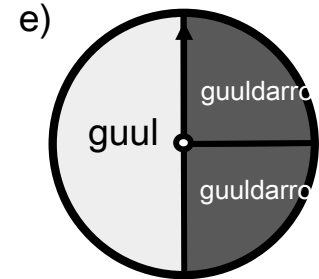
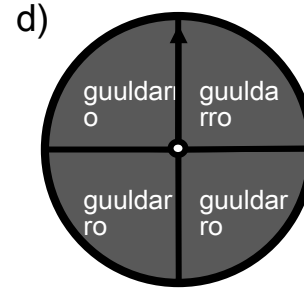
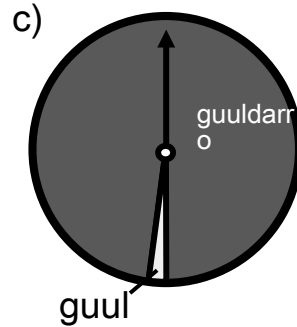
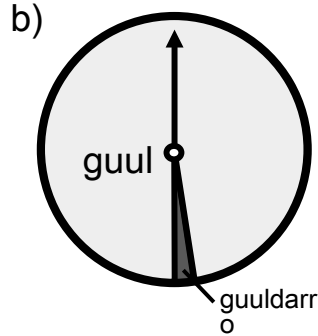
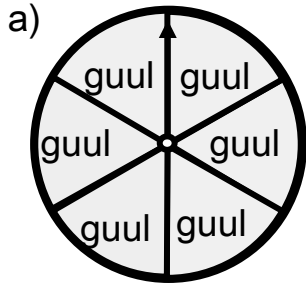
Wareeggu wuxuu u badan yahay inuu ku dhaco lambar aan caadi ahayn (odd) sida uu ugu dhaco lambar aan ahayn odd.



b

Natijjooyinka isku midka ah (equally likely) marnaba ma laha fursad siman (even chance).

1) Wareeg kasta, qor haddii ay tahay inuu ku dhaco 'win' (guul) waa aan suurtagal ahayn (impossible), suurtagal yar (unlikely), fursad siman (even chance), suurtagal (likely), ama hubaal (certain).



2) Caasha, Isra, Yacquub, Cabdi iyo Suad waxay ciyaarayaan ciyaar ku lug leh duufaan (dice) lix-geesood oo caadi ah si loo go'aamiyo haddii ay dhaqaaqi karaan.

Macluumaadka hoose wuxuu muujinayaa waxa qof kasta u baahan yahay inuu duufaanno si uu u dhaqaaqo gudaha.



Caasha

qaybiyaha 24 (factor of 24)



Isra

tiro badan oo 1 (multiple of 1)



Yacquub

qaybiyaha 25 (factor of 25)



Suad

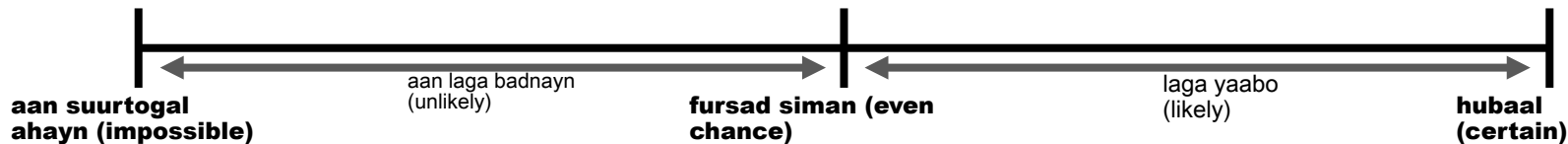
aan tiro-ool ahayn (non-integer)



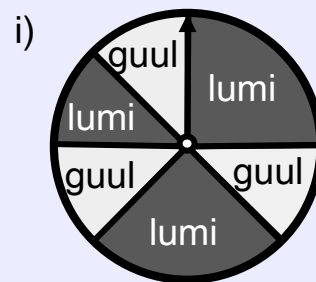
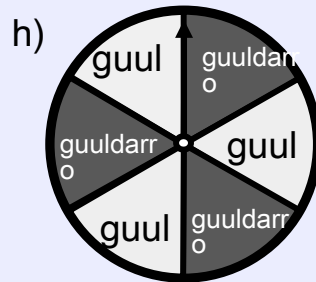
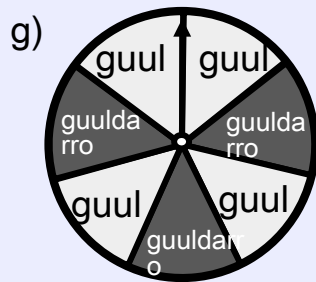
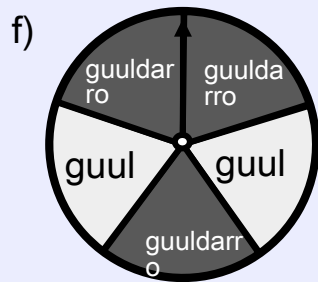
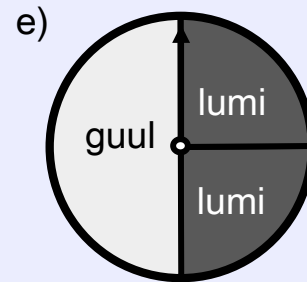
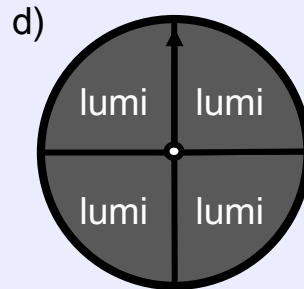
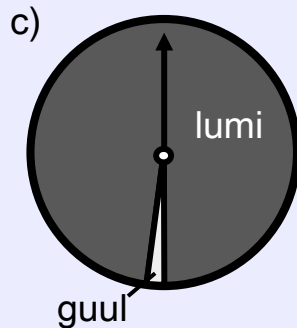
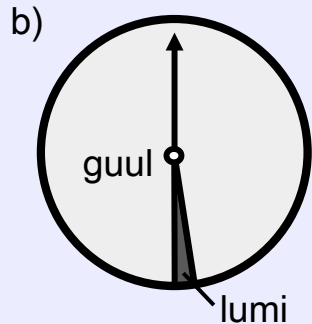
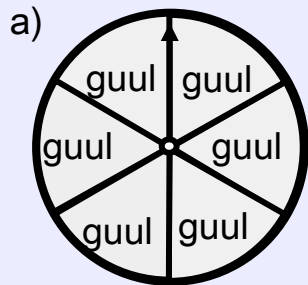
Cabdi

tiro asal ah (prime number)

Ku qor xarafka koowaad ee magacooda meesha saxda ah si aad u matasho suurtoalnimada qof kasta oo dhaqaaqa.



1) Spinner kasta, qor haddii suurtoqalnimada inuu ku soo dego 'guul' ay tahay aan suurtoqal ahayn, aan laga badnayn, fursad siman, laga yaabo ama hubaal.



2) Caasha, Isra, Yacquub, Cabdi iyo Suad waxay ciyaarayaan ciyaar u baahan in la rogo dice (six-sided dice) si loo ogaado in la dhaqaaqi karo.

Macluumaadka hoose waxay muujinayaan waxa qof kasta u baahan yahay inuu rogo si uu u dhaqaajiyo gabadhiisa.



Caasha

factor (qaybiye) 24



Isra

multiple (tiro badan) 1



Yacquub

faktor ee 25



Suad

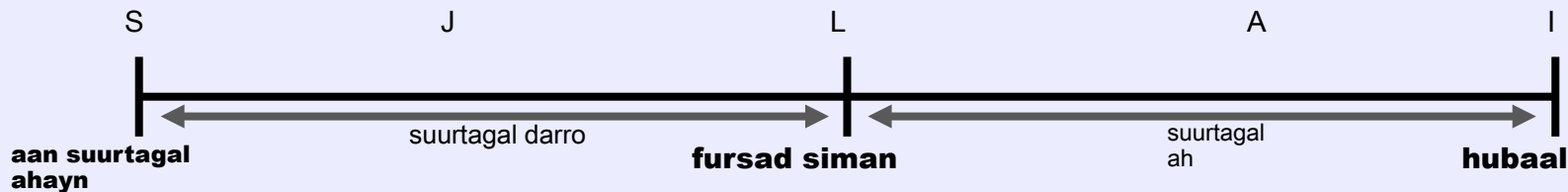
aan tiro-koob ahayn



Cabdi

tiro asli ah (prime number)

Ku matal suurtagalnimada qof kasta oo dhaqaajiya gabadhiisa miisaanka suurtagalnimada adoo qoraya xarafka koowaad ee magaciisa meesha saxda ah.



Miisaanka suurtoqalnimada



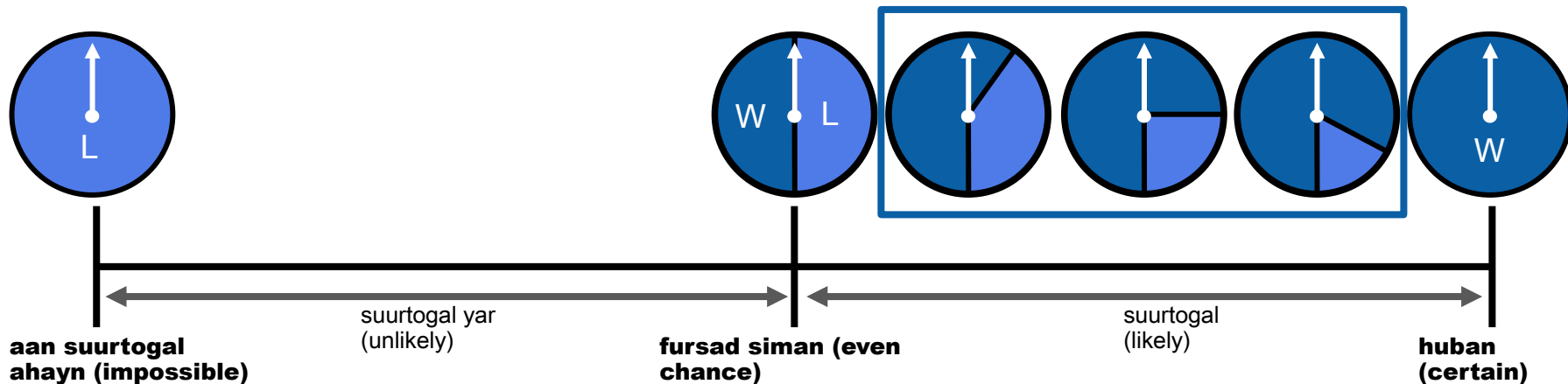
Soo bandhigida miisaanka suurtoqalnimada



Isbarbardhigga suurtoqalnimada dhacdooyinka ee miisaanka

Marka ay jiraan dhacdooyin badan oo ay suurtoqal tahay inay dhacaan, dhacdo ayaa ka suurtoqal badan mid kale.

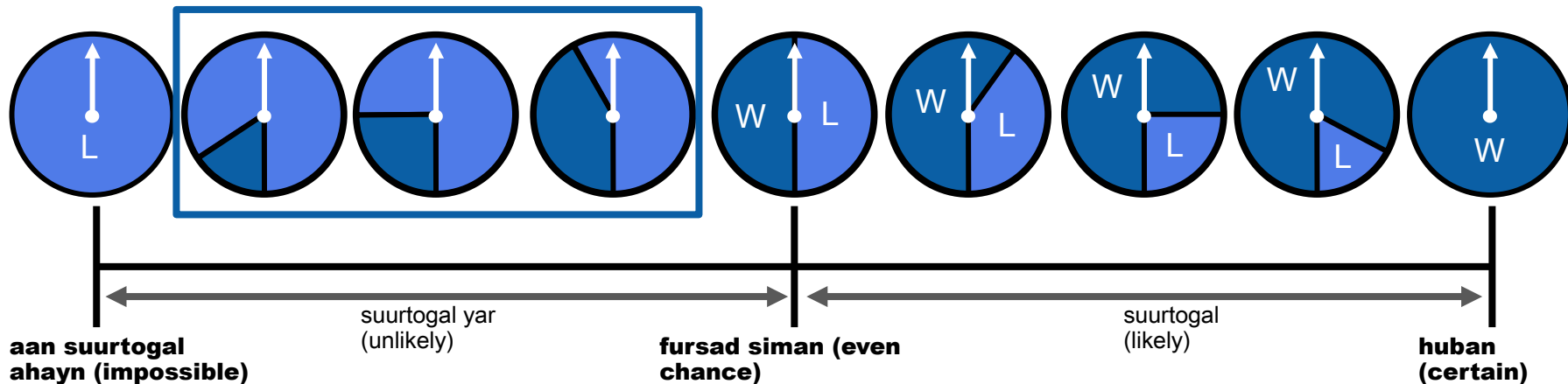
Tusaale: saddexda wareeg ee kani waxay u badan yihiin inay ku soo degtaan 'W', laakiin qaar ayaa ka badan kuwa kale.



miisaanka suurtoqalnimada ee wareegyada ku soo degaya 'win' (W)

Marka ay jiraan dhacdooyin badan oo aan suurtagal ahayn inay dhacaan, dhacdo ayaa weli ka suurtagal badan mid kale.

Tusaale ahaan, saddexda wareeg (spinners) ee kani waa kuwa aan u badnayn inay ku soo degtaan 'W', laakiin qaar ayaa ka badan kuwa kale.



miisaanka suurtagalnimada (likelihood) ee wareegyada (spinners) ku soo degaya 'guul' (W)

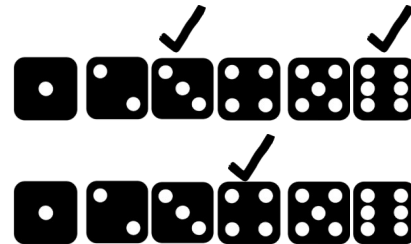
Layla iyo Suad waxay ciyaarayaan ciyaar ku lug leh duufaanka (rolling) dice si loo go'aamiyo haddii aad dhaqaajin karto gabadhaada.



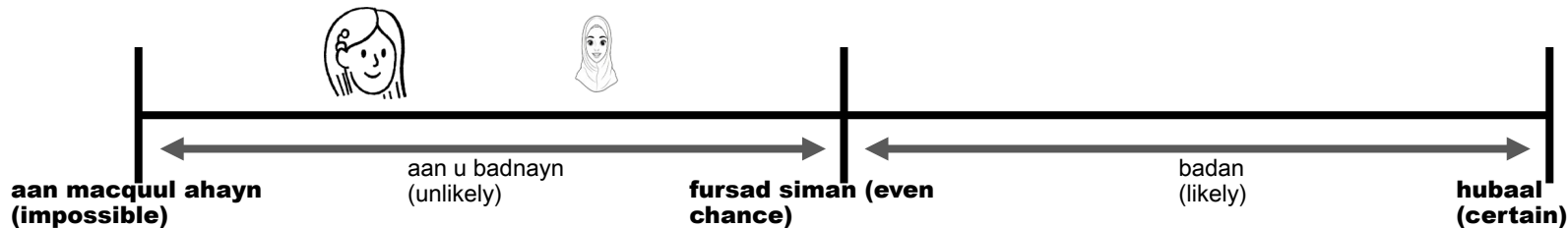
Layla waxay dhaqaajin kartaa gabadheeda haddii ay duufato (roll) tiro (multiple) ah 3.



Suad waxay dhaqaajin kartaa gabadheeda haddii ay duufato (roll) tiro (multiple) ah 4.



Labada ciyaartoy, suurtagalnimadooda dhaqaaqista waa aan u badnayn (unlikely). Sida ay u kala horreeyaan suurtagalnimadooda miisaanka?



Fiiro gaar ah: natiijooyin kale oo duufaanka (dice roll) ah ayaa suurtagal ah.

Caasha iyo Yacquub waxay isu diyaarinayaan inay ciyaaraan tennis.

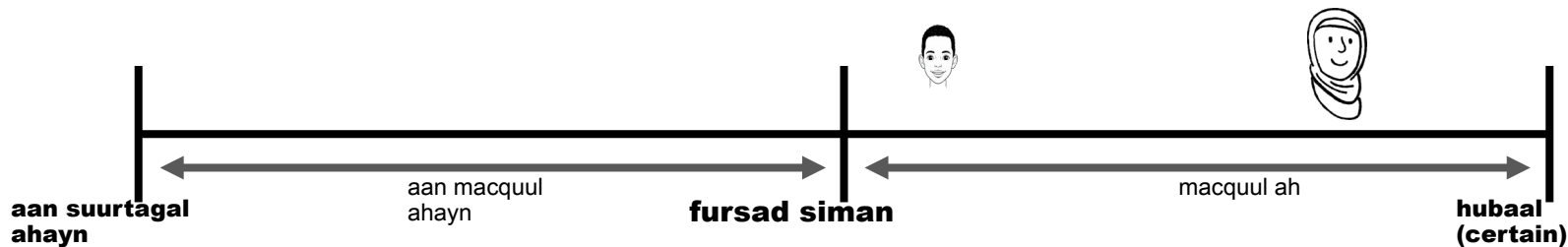
Natiijooyinka kaliya ee suurtagalka ah waa Caasha guulaysataa ama Yacquub guulaysataa.

$\xi = \{\text{Caasha waa guulaysataa, Yacquub waa guulaysataa}\}$



Axmed wuxuu ka fikirayaa halka suurtagalnimada qof kasta oo guulaysanaya ay ku yeelan karto miisaanka suurtagalnimada.

Waxaan u maleynayaa in labadooduba ay noqon karaan kuwa u badan (likely) inay guulaystaan, laakiin Caasha ayaa ka badan (more likely) inay guulaysato Yacquub.

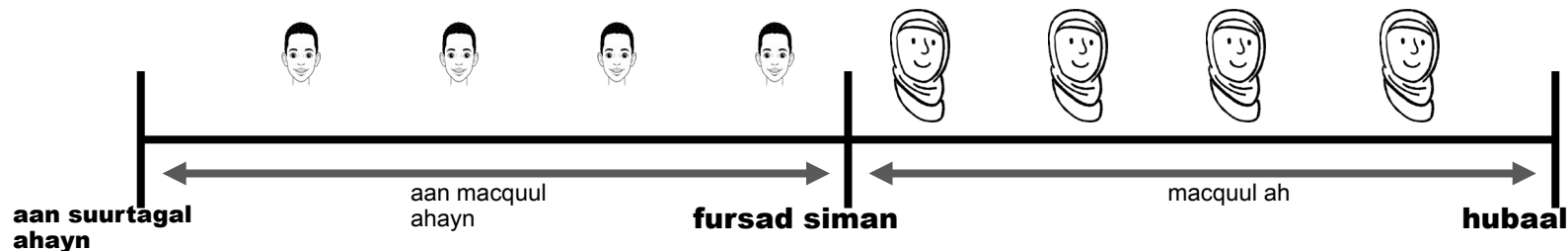


Isbarbardhigga suurtagalnimada dhacdooyinka ee miisaanka

Xaaladdan, waxaa jira kaliya laba natiijo oo suurtagal ah kuwaas oo aan labaduba ku dhici karin isku tijaabo. Tani waxay ka dhigan tahay marka hal natiijo dhacdo, waxay keentaa in natiijada kale aysan dhicin.

$$\xi = \{Caasha\ guuleysatay, Yacquub\ guuleystay\}$$

Marka ay aad ugu dhowdahay in Caasha guuleysato, waxay u yar tahay in Yacquub guuleysto.



Cali, Layla iyo Suad waxay ciyaarayaan ciyaar ku lug leh duubista dice si loo go'aamiyo haddii aad dhaqaajin karto gabadhaada.



Cali wuxuu dhaqaajin karaa gabadhiisa haddii uu duubo lambar ka yar 6.

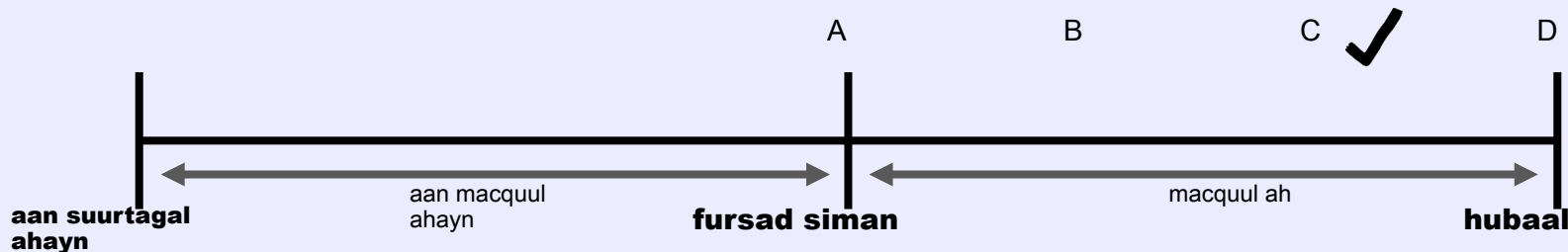


Layla waxay dhaqaajin kartaa gabadheeda haddii ay duubto factor of 6.



Suad waxay dhaqaajin kartaa gogosheeda haddii ay rogto tiro kisi (odd number).

Xarfe (letter) kee ayaa matalaya suurtagalnimada (likelihood) in Cali uu dhaqaajiyo gogoshiisa?



Cali, Layla iyo Suad waxay ciyaarayaan ciyaar ku lug leh rogista laxaad (dice) si loo go'aamiyo haddii aad dhaqaajin karto gogoshaada.



Cali wuxuu dhaqaajin karaa gogosha haddii uu rogo tiro ka yar 6.

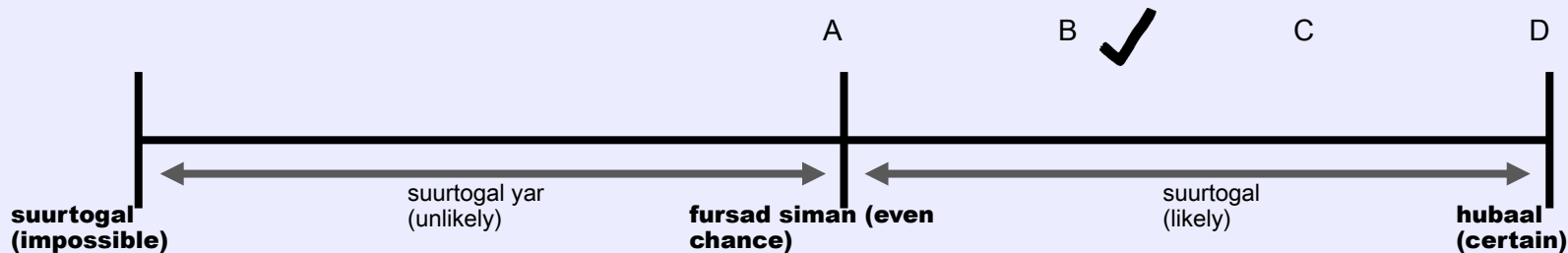


Layla waxay dhaqaajin kartaa gogosheeda haddii ay rogto qaybiye (factor) 6.



Suad waxay dhaqaajin kartaa gogosheeda haddii ay rogto tiro kisi (odd number).

Xarfe (letter) kee ayaa matalaya suurtoqalnimada (likelihood) in Layla ay dhaqaajiso gogosheeda?



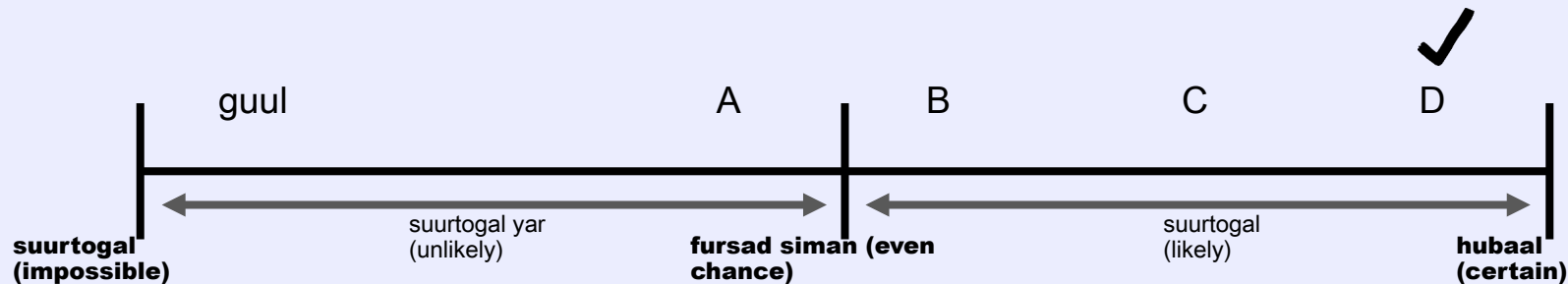
Isbarbardhigga suurtogalnimada dhacdooyinka (likelihood of events) ee miisaanka (scale)



Wareejiye (spinner) wuxuu ka kooban yahay laba natiijo (outcomes) oo keliya: $\xi = \{\text{guul (win), guuldarro (lose)}\}$

Suurtogalnimada (likelihood) in wareejiyuhu (spinner) ku soo degto 'guul (win)' waxaa lagu matalaa miisaanka suurtogalnimada (scale of likelihoods).

Xarfe (letter) kee ayaa matalaya suurtogalnimada (likelihood) in wareejiyuhu (spinner) ku soo degto 'guuldarro (lose)'?



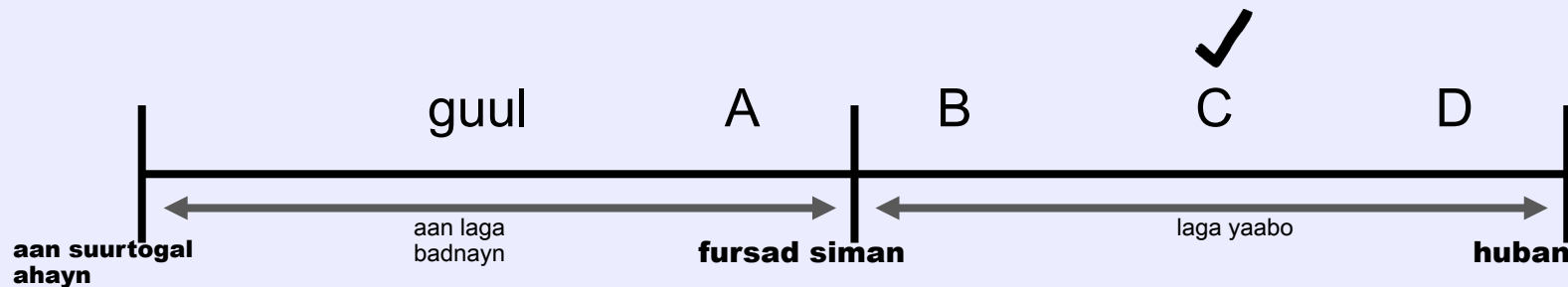
Isbarbardhigga suurtoalnimada dhacdooyinka ee miisaanka



Wareeggu wuxuu ka kooban yahay laba natiijo oo keliya: $\xi = \{\text{guul}, \text{guuldarro}\}$

Suurtoalnimada in wareeggu ku soo degto 'guul' waxaa lagu muujiyay miisaanka suurtoalnimada.

Xarfeeyee ka dhigan tahay suurtoalnimada in wareeggu ku soo degto 'guuldarro'?



1) Ciyaar ku lug leh soo saarista kaar ka mid ah xirmada hoose si loo go'aamiyo cidda dhaqaaqaysa.

Macluumaad wuxuu ka baxayaa xarafka u dhacay si qof kastaa u dhaqaaqo.

A1	B2	C3	D4	E5	F6	G7	H8	I9	J10



Caasha
shaqal (vowel)



Isra
shibbane (consonant)



Yacquub
tiro kooban (prime number)

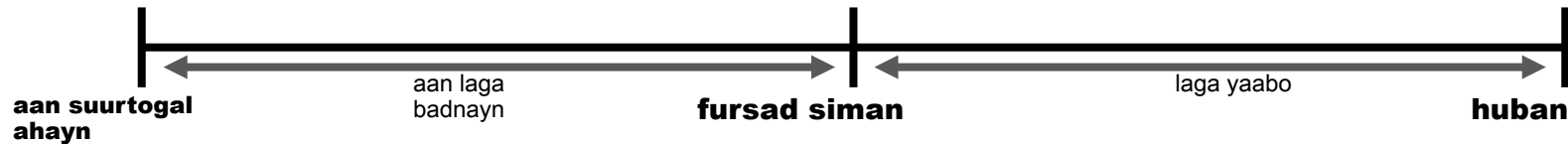


Suad
qaybiyaha 24 (factor of 24)

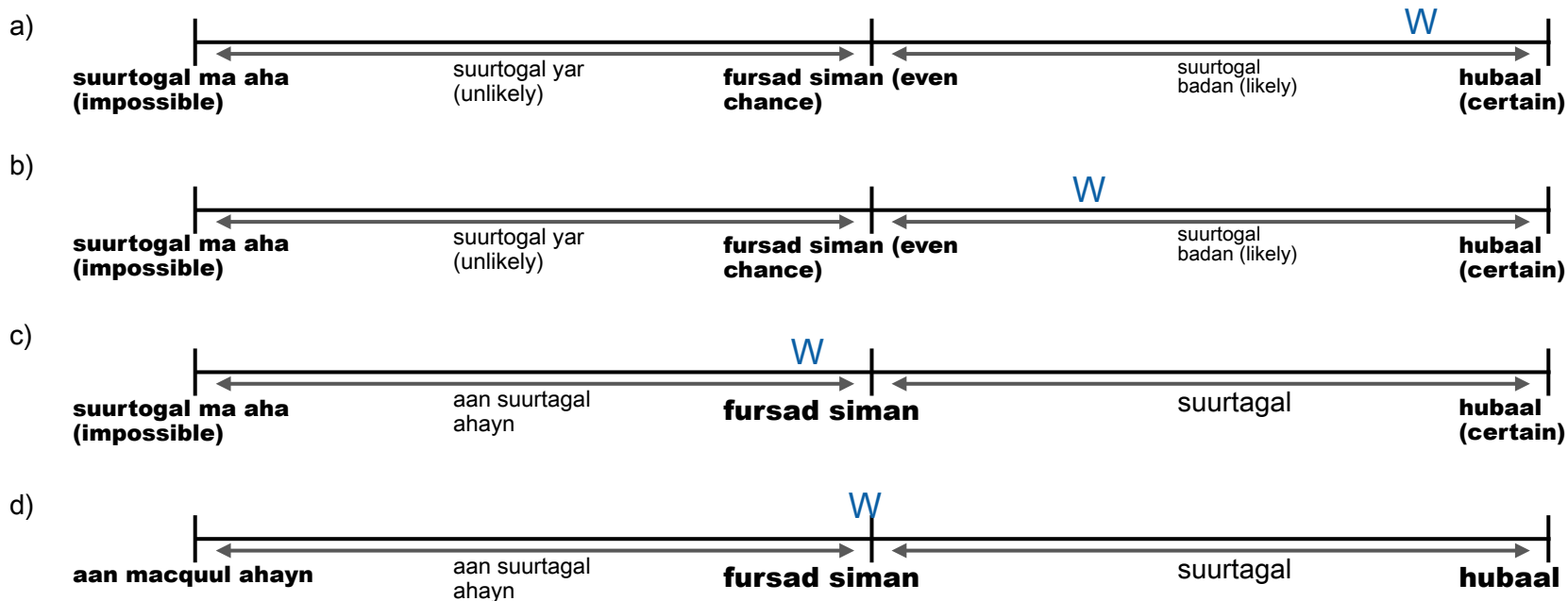


Cabdi
tiro laba jibaaran (square number)

Ku muuji suurtogalnimada dhaqaaqa qof kasta ee miisaanka suurtogalnimada adoo ku qoraya xarafka koowaad ee magaciisa meesha saxda ah.



2) Qayb kasta oo wareegto (spinner) ah waxay leedahay laba natiijo oo keliya: 'guul' (win) ama 'guuldarro' (lose). Suurtoqalnimada in qayb kasta ku soo baxdo 'guul' (W) ayaa lagu muujiyay miisaanka hoose. Ku calaamadee booska ka dhigan suurtoqalnimada guuldarrada (L) qayb kasta.



1) Ciyaar ku lug leh soo saarista kaadhka hoose si loo go'aamiyo cidda dhaqaaqaysa.

Macluumaad ku A1 B2 C3 D4 E5 F6 G7 H8 I9 J10 ka kooban yahay si qof kasta u dhaqaaqo.



Caasha
shaqal (vowel)



Isra
shibbane (consonant)



Yacquub
tiro koowaad (prime number)

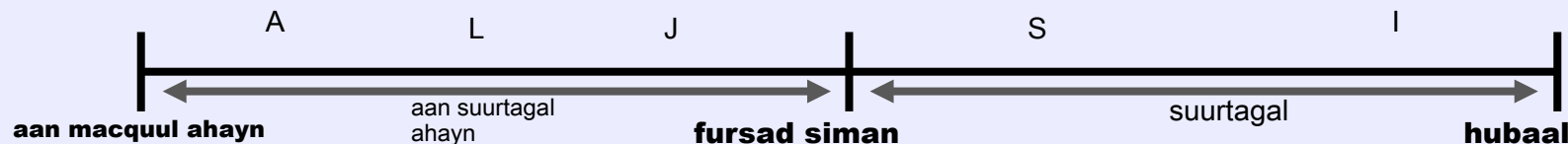


Suad
qaybiyaha 24 (factor of 24)

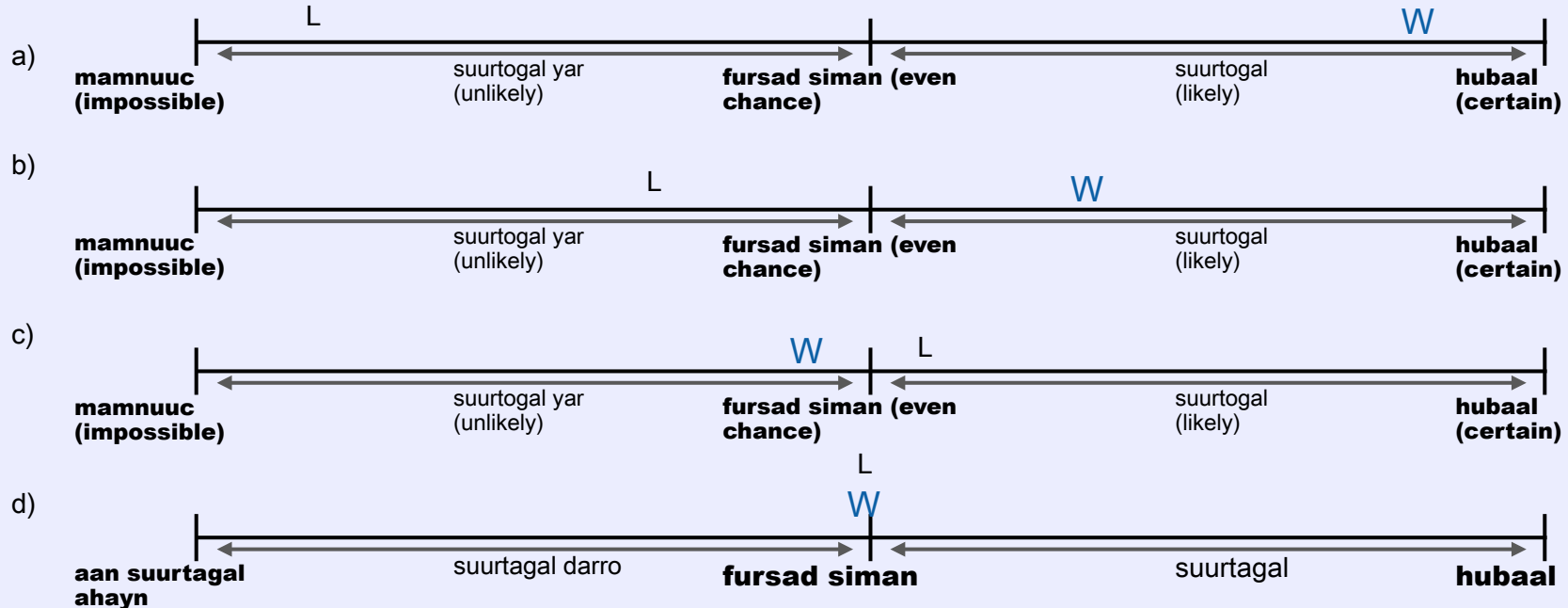


Cabdi
tiro laba jibaaran (square number)

Ku muuji suurtagalnimada qof kasta oo dhaqaajinaya galkiisa miisaanka suurtagalnimada adoo qoraya xarafka koowaad ee magaciisa meesha saxda ah.



2) Qaybiyayaal (spinners) kasta wuxuu leeyahay laba natiijo oo keliya: 'guul' ama 'guuldarro'. Suurtoqalnimada qaybiyaha (spinner) kasta inuu ku soo baxo 'guul' (W) waxaa lagu muujiyay miisaanka hoose. Ku calaamadee booska ka dhigan suurtoqalnimada guuldarrada (L) qaybiyaha (spinner) kasta.



- Suurtagalnimada dhacdooyinka waxaa lagu matali karaa miisaan.
- Dhacdo aan suurtagal ahayn ma leh fursad ay ku dhacdo.
- Dhacdo hubaal ah waa mid lagu kalsoon yahay inay dhacdo.
- Dhacdo waxay leedahay fursad siman haddii suurtagalnimada dhacdeeda ay la mid tahay suurtagalnimada aan dhacdeeda.
- Dhacdooyin badan ayaa si isku mid ah u suurtagali kara inay dhacaan iyada oo aan lahayn fursad siman.
- Dhacdooyinka qaarkood waxay u badan yihiin inay dhacaan marka loo eego kuwa kale.