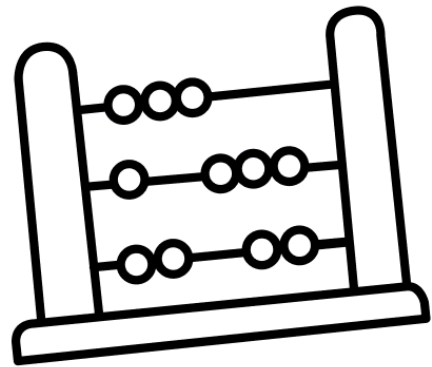


Isticmaalka liisaska si loo muujiyo natiijooyinka in ka badan laba dhacdo

Maths

Cutub: Itimaalka (Probability): natiijooyinka suurtagalka ah



Natiijo

Waxaan si nidaamsan u heli karaa dhammaan natiiyooyinka suurtagalka ah ee in ka badan laba dhacdo anigoo liis ku qoraya.

Erayada muhiimka ah

Marka la qorayo natiijooyinka si nidaamsan, waxaa loo qoraa si loo hubiyo in dhammaan natiijooyinka la diiwaangeliyo.

Isticmaalka liisaska si loo muujiyo natiijooyinka in ka badan laba dhacdo



Qorista natiijooyinka tijaabo badan (multi-stage trial)

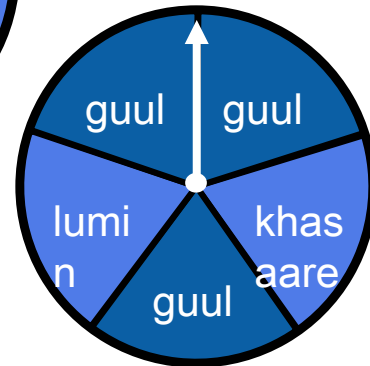
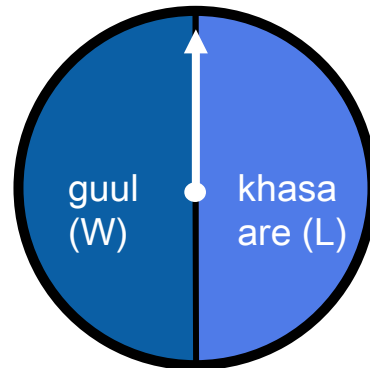
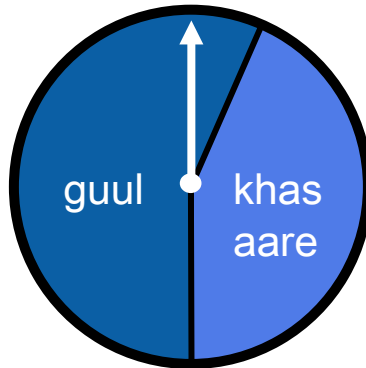


Qorista natiijooyinka in ka badan laba dhacdo

Qorista natiijooyinka tijaabo badan (multi-stage trial)

Haddii aan wareejinno wareejintan (spinner) saddex jeer, waa maxay natiijooyinka suurtagalka ah?

WWW
ama
ama LWW
WWL
ama
ama LWL
WLW
ama
ama LLW
WLL
ama LLL

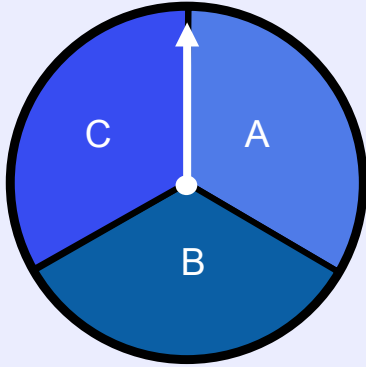


Kuwani waa natiijooyinka suurtagalka ah ee dhammaan wareegyadan.
Sidee?

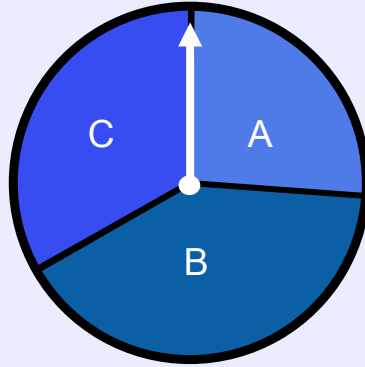
Wareeg kastaa wuxuu leeyahay laba natiijo; guul ama lumin.

Liis garaynta natiijooyinka tijaabo heerar badan leh

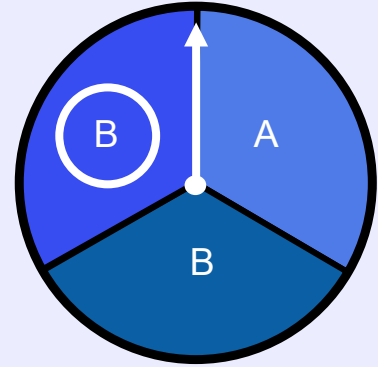
Haddii dhammaan wareegyadan la wareejiyo afar jeer, kee baa lahaan doona liis natiijooyin oo ka duwan labada kale?



a



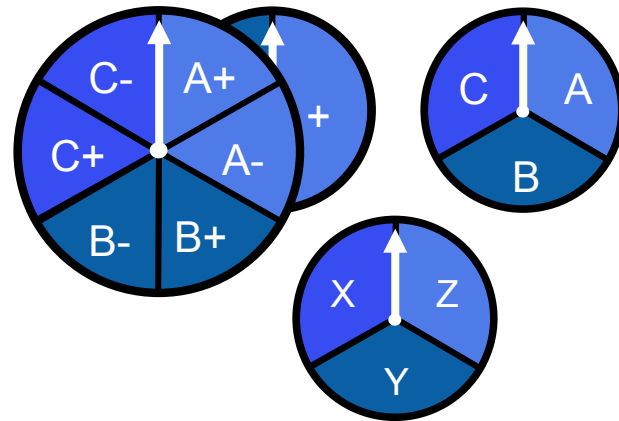
b



c



Nuur wuxuu wareejin doonaa saddex wareeg oo kala duwan. Wareegga 1 wuxuu leeyahay natiijooyinka {A, B, C} Wareegga 2 wuxuu leeyahay natiijooyinka {+, -} Wareegga 3 wuxuu leeyahay natiijooyinka {X, Y, Z}



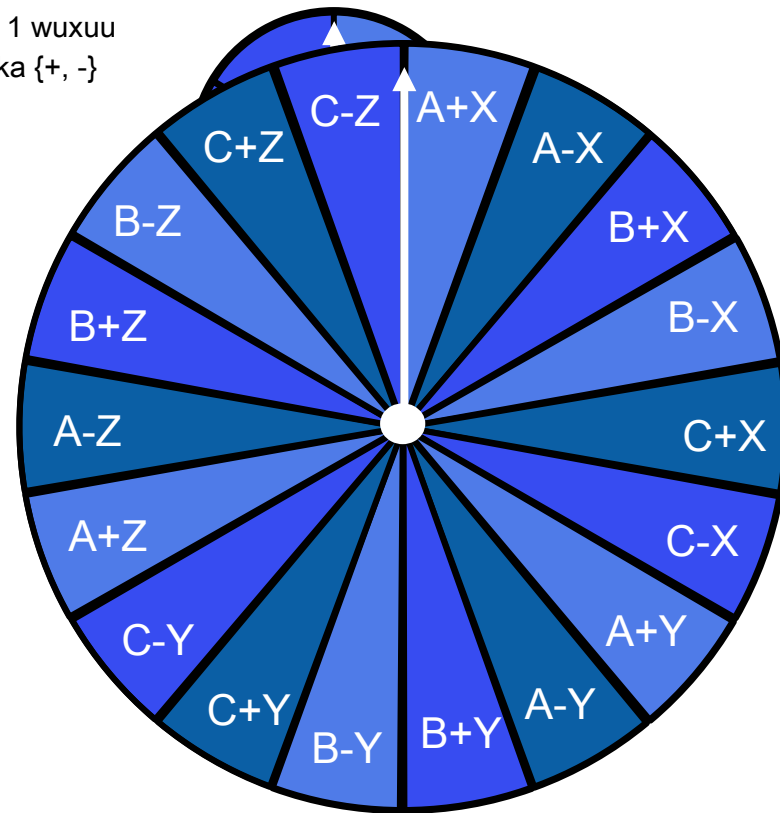
Wareegga 1 iyo wareegga 2 waa la isku dari karaa si loo muujiyo natiijooyinka.

{A+, A-, B+, B-, C+, C-}

Nuur wuxuu wareejin doonaa saddex wareeg oo kala duwan. Wareegga 1 wuxuu leeyahay natiijooyinka {A, B, C} Wareegga 2 wuxuu leeyahay natiijooyinka {+, -} Wareegga 3 wuxuu leeyahay natiijooyinka {X, Y, Z}

Wareeg kama dambays ah oo muujinaya dhammaan natiijooyinka suurtagalka ah ee saddexda wareeg ayaa markaa la abuuri karaa.

{A+X, A-X, B+X, B-X, C+X, C-X, A+Y, A-Y, B+Y, B-Y, C+Y, C-Y, A+Z, A-Z, B+Z, B-Z, C+Z, C-Z}



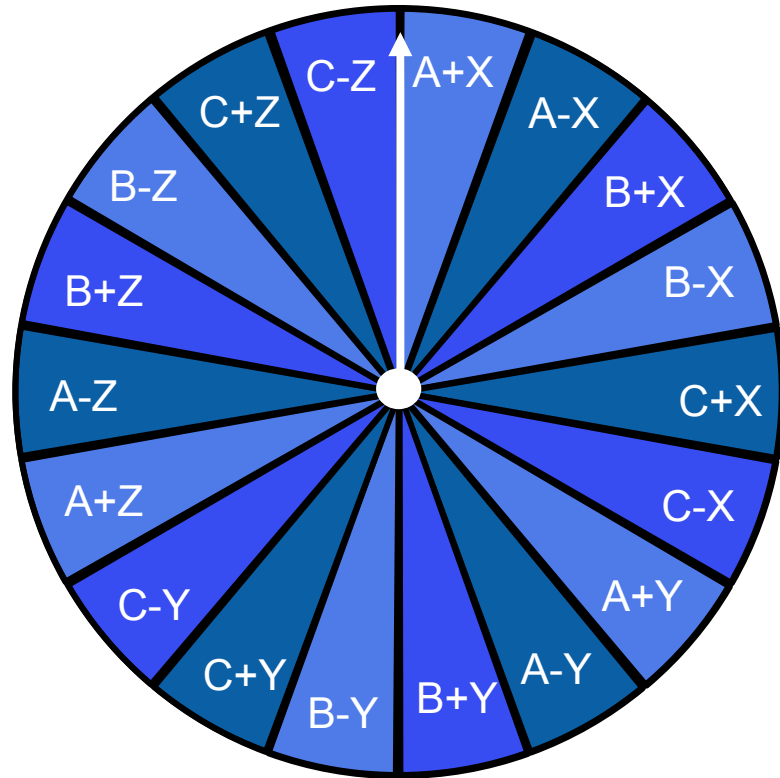
Liis garaynta natiijooyinka tijaabo heerar badan leh



Isra

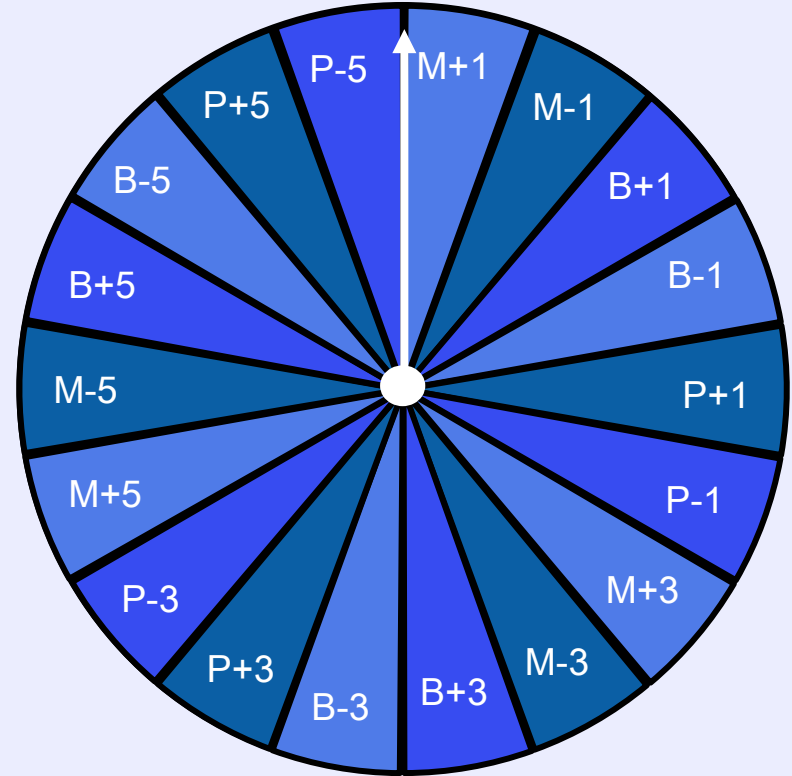
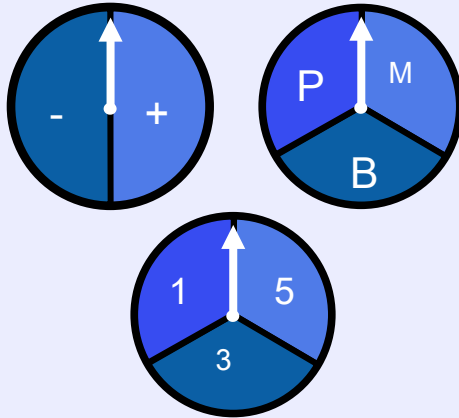
Miyayna muhiim ahayn sida wareegyada loo isku daray?

Waxaa jira 18 natiijo, iyadoon loo eegin sida loo abuuray.



Liis garaynta natiijooyinka tijaabo heerar badan leh

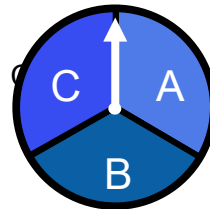
Dhammeystir saddexda wareeg ee la isku daray.



Laydh (dice) lix dhinac ah oo cadaalad ah ayaa la rogi doonaa, wareeggan ayaa la wareejin doonaa, iyo lacag (coin) cadaalad ah ayaa la tuuri doonaa.

Natiijooyinka suurtagalka ah ee laydhka waa {1, 2, 3, 4, 5, 6}. Natiijooyinka suurtagalka ah ee wareegga waa {A, B, C}.

Natiijooyinka suurtagalka ah ee lacagta waa {H, T}.



Si loo liis garo dhammaan natiijooyinka suurtagalka ah ee tijaabada heerar badan leh, waa inaynu si nidaamsan u samaynaa.

Tusaale ahaan, natijada dice si isku mid ah u hayso, ka dibna spinner-ka iyo coin-ka.

Natiijooyinka suurtagalka ah ee dice waa {1, 2, 3, 4, 5, 6}. Natiijooyinka suurtagalka ah ee spinner waa {A, B, C}.

Natiijooyinka suurtagalka ah ee coin waa {H, T}.

Sidaas
darteed,

1	A	H	2	A	H	3	A	H	4	A	H	5	A	H	6	A	H
1	A	T	2	A	T	3	A	T	4	A	T	5	A	T	6	A	T
1	B	H	2	B	H	3	B	H	4	B	H	5	B	H	6	B	H
1	B	T	2	B	T	3	B	T	4	B	T	5	B	T	6	B	T
1	C	H	2	C	H	3	C	H	4	C	H	5	C	H	6	C	H
1	C	T	2	C	T	3	C	T	4	C	T	5	C	T	6	C	T

Haddii natiijooyinka loo tixgeliyo saf kasta, tani waxay muujinaysaa hab nidaamsan oo kala duwan oo loo qoro.

Suad waxay u baahan tahay inay dhamaystirto shaqada guriga (H), nadiifiso qolkeeda (T), oo ay ku tababarto ciyaarista qalabkeeda (I).

Dhamaystir liiska amarrada suurtagalka ah ee ay ku qaban karto saddexda hawshood.

HTI, HIT, TIH, THI, ,

IHT

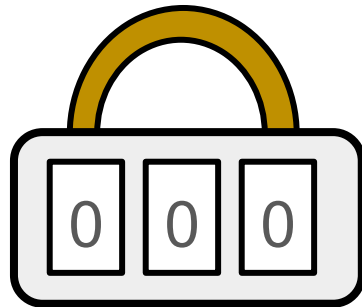
ITH

Qulubkan isku xirka wuxuu u baahan yahay saddex lambar oo keli ah.

Lambarka 1aad waa tiro ka mid ah multiples of 3

Lambarka 2aad waa factor of 20

Lambarka 3aad waa tiro siman (even number)



Lambarka 1aad waa mid ka mid ah natiijooyinka soo socda {3, 6, 9}.

Lambarka 2aad waa mid ka mid ah natiijooyinka soo socda {1, 2, 4, 5}.

Lambarka 3aad waa mid ka mid ah natiijooyinka soo socda {2, 4, 6, 8}.

Waa maxay natiijooyinka suurtagalka ah ee qulubka ku dhammaanaya '2'?

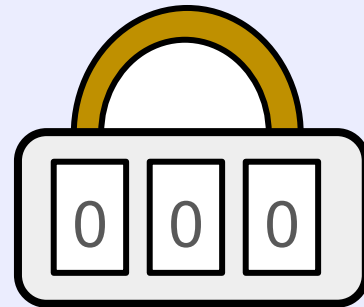
312, 612, 912, 322, 622, 922, 342, 642, 942, 352, 652, 952

Qufulkan isku-dhafka (combination lock) wuxuu u baahan yahay saddex lambar oo keliya.

Lambarka 1aad waa mid ka mid ah natiijooyinkan {4, 8}.

Lambarka 2aad waa mid ka mid ah natiijooyinkan {1, 3, 9}.

Lambarka 3aad waa mid ka mid ah natiijooyinkan {0, 7}.

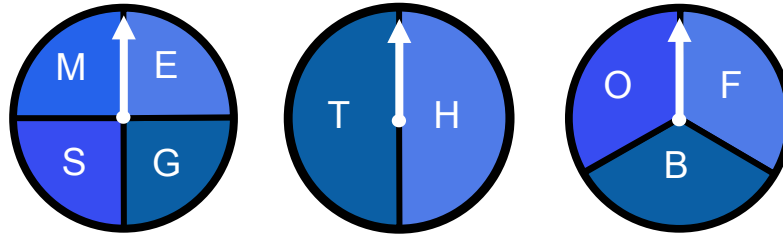


Axmed wuxuu horey u tijaabiyay 410, 430, 490, 417, 437, 497, 810, 817, 830, 837 iyada oo aan guul la helin.

Waa maxay isku-dhafka kale ee Axmed u baahan yahay inuu tijaabiyo?

890 iyo 897

1) Nuur wuxuu u baahan yahay dib-u-eegis, marka wuxuu isticmaalaa saddex wareeg (spinners) si uu u go'aamiyo maadada {xisaab (M), Ingiriisi (E), saynis (S), juqraafi (G)}, muddada {20 daqiiqo (T), 60 daqiiqo (H)} iyo kheyraadka {Oak National Academy (O), kaararka xusuusta (F), buugaagta (B)}.



a) qor dhammaan natiijooyinka suurtoogalka ah ee dib-u-eegista Nuur

b) isbarbardhig liiskaaga natiijooyinka suurtoogalka ah iyo liiska Nuur ee natiijooyinka suurtoogalka ah

MTO, EHB, STO, GTO, GHB, ETF, STF, GTF, MTB, ETB, SHB, GTB, MHO, SHO, EHO, MTF, MHF, EHF, STB, GHF, MHB, ETO, STB, GHO

2) Makhaayad waxay leedahay menu saddex-cunto ah oo qiimihiisu go'an yahay.

Bilowga (Starter)

Booqosha toonta (Garlic mushrooms) (G)

Qaniinyada Halloumi (Halloumi bites) (H)

Cuntada weyn (Main)

Bacon cheeseburger (C)

Kalluun iyo baradho (Fish and chips) (F)

Curry khudrad (V)

Macmacaan

Jalaato (I)

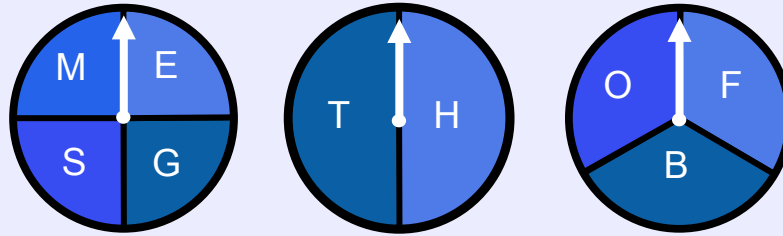
Salad khudrad (S)

a) qor dhammaan natiijooyinka suurtagalka ah oo ay ku jirto jalaatada (ice cream) macmacaanka (dessert) ahaan

b) liis garay dhammaan natiijooyinka suurtagalka ah oo ay ku jirto cuntada khudradda (vegetable curry) cuntada weyn (main course) ahaan

c) liis dhammaan natiijooyinka suurtagalka ah oo ay ku jiraan mushrooms toonta ah sida cuntada bilowga ah iyo salad khudrad sida macmacaanka

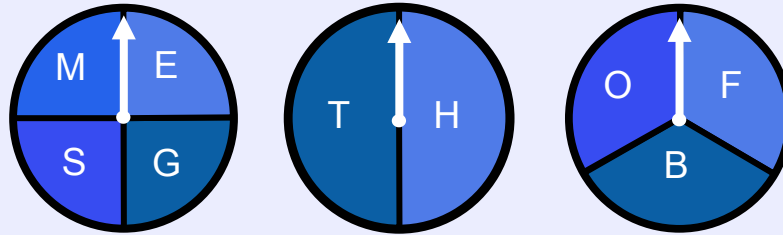
1) Nuur wuxuu u baahan yahay dib-u-eegis, marka wuxuu isticmaalaa saddex spinner si uu u go'aamiyo maadada {xisaab (M), Ingiriisi (E), saynis (S), juqraafi (G)}, muddada {20 daqiiqo (T), 60 daqiiqo (H)} iyo ilaha {Oak National Academy (O), kaararka (F), buugaagta (B)}.



a) qor dhammaan natiijooyinka suurtagalka ah ee dib-u-eegista Nuur

MTO, ETO, STO, GTO, MTF, ETF, STF, GTF, MTB, ETB, STB, GTB, MHO, EHO, SHO, GHO, MHF, EHF, SHF, GHF, MHB, EHB, SHB, GHB

1) Nuur wuxuu u baahan yahay dib-u-eegis, marka wuxuu isticmaalaa saddex spinner si uu u go'aamiyo maadada {xisaab (M), Ingiriisi (E), saynis (S), juqraafi (G)}, muddada {20 daqiiqo (T), 60 daqiiqo (H)} iyo ilaha {Oak National Academy (O), kaararka (F), buugaagta (B)}.



b) isbarbardhig liiskaaga natiijooyinka suurtagalka ah iyo liiska Nuur ee natiijooyinka suurtagalka ah
MTO, EHB, STO, GTO, GHB, ETF, STF, GTF, MTB, ETB, SHB, GTB, MHO, SHO, EHO, MTF, MHF,
EHF, STB, GHF, MHB, ETO, STB, GHO

Nuur wuu seegay SHF oo wuxuu ku celiyay STB. Liiskiisu ma aha mid nidaamsan.

2) Makhaayad waxay leedahay menu saddex cunto oo qiimo go'an.

Bilow

Mushrooms toonta ah (G)

Halloumi qaniinyo (H)

Cuntada ugu weyn

Bacon cheeseburger (C)

Kalluun iyo baradho (F)

Vegetable curry (V)

Macmacaan (Dessert)

Ice Cream (I)

Fruit Salad (S)

a) qor dhammaan natiijooyinka suurtagalka ah oo ay ku jiraan jalaato sida macmacaanka

GCI, GFI, GVI, HCI, HFI, HVI

b) liis dhammaan natiijooyinka suurtagalka ah oo ay ku jirto vegetable curry sida cuntada weyn

GVI, HVI, GVS, HVS

c) liis dhammaan natiijooyinka suurtagalka ah oo ay ku jiraan garlic mushrooms sida bilowga iyo fruit salad sida macmacanka

GCS, GFS, GVS

Isticmaalka liisaska si loo muujiyo natiijooyinka ka badan laba dhacdo



Liisinta natiijooyinka tijaabo heerar badan leh (multi-stage trial)



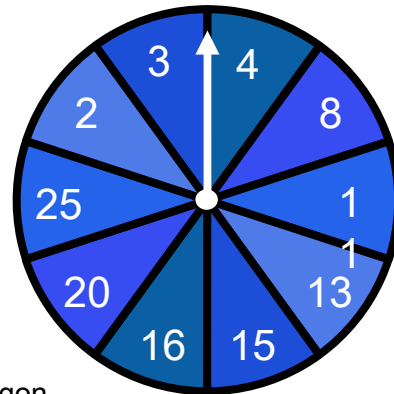
Liisinta natiijooyinka ka badan laba dhacdo (event)

Wareeggan (spinner) wuxuu leeyahay natiijooyinka {2, 3, 4, 8, 11, 13, 15, 16, 20, 25}.

Dhacdo A = tirooyinka asaasiga ah (prime numbers)

Dhacdo B = tirooyinka aan labajibbaaraneyn (non-square numbers)

Dhacdo C = tirooyinka kiska (odd numbers)



Haddii aan wareegga mar kaliya wareejinno (spin), kee baa ka mid ah natiijooyinka suurtagalka ah ee noqon kara natiijooyinka dhacdo A, B iyo C?

{3, 11, 13}

A = {2, 3, 11, 13}

B = {2, 3, 8, 11, 13, 15, 20}

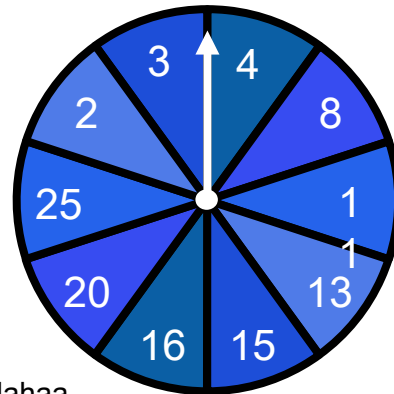
C = {3, 11, 13, 15, 25}

Wareeggan (spinner) wuxuu leeyahay natiijooyinka {2, 3, 4, 8, 11, 13, 15, 16, 20, 25}.

Dhacdo A = tirooyinka asaasiga ah (prime numbers)

Dhacdo B = tirooyin aan laba jibaaran ahayn (non-square numbers)

Dhacdo C = tirooyin khariij ah (odd numbers)



Haddii aan mar wareejiyo wareegga (spinner), kiisas ka mid ah natiijooyinka suurtagalka ah ayaa noqon lahaa natiijooyinka dhacdada A iyo B laakiin ma aha dhacdada C?

A = {2, 3, 11, 13}

B = {2, 3, 8, 11, 13, 15, 20}

C = {3, 11, 13, 15, 25}

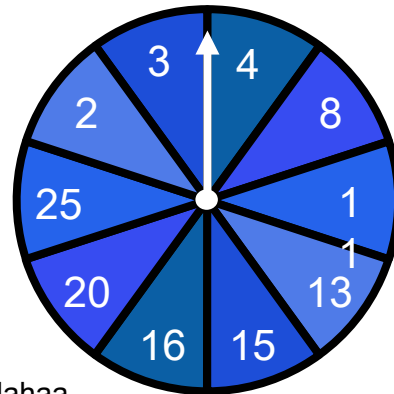
{2}

Wareeggan (spinner) wuxuu leeyahay natiijooyinka {2, 3, 4, 8, 11, 13, 15, 16, 20, 25}.

Dhacdo A = tirooyin asal ah (prime numbers)

Dhacdo B = tirooyin aan laba jibaaran ahayn (non-square numbers)

Dhacdo C = tirooyin khariij ah (odd numbers)



Haddii aan mar wareejiyo wareegga (spinner), kiisas ka mid ah natiijooyinka suurtagalka ah ayaa noqon lahaa natiijooyinka dhacdada B iyo C laakiin ma aha dhacdada A?

A = {2, 3, 11, 13}

B = {2, 3, 8, 11, 13, 15, 20}

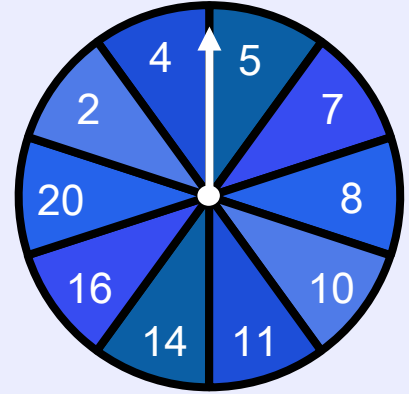
C = {3, 11, 13, 15, 25}

{15}

Qorista natiijooyinka ka badan laba dhacdo

Marka wareeggan (spinner) la wareejiyo, natiijooyinka suurtagalka ah waa {2, 4, 5, 7, 8, 10, 11, 14, 16, 20}.

Qor natiijooyinka ah kuwa khariij ah (even),
qaybiyeyasha 28 (factors of 28) iyo ka yar 10.



Natiijooyinka khariijka ah (even) {2, 4, 8, 10, 14, 16, 20}

Natiijooyinka khariijka ah (even) iyo qaybiyeyasha 28 (factors of 28) {2, 4, 14}

Natiijooyinka khariijka ah (even), qaybiyeyasha 28 (factors of 28) iyo ka yar 10 waa {2, 4}

10 arday ayaa la weyddiiyay inay waligood booqdeen Faransiiska, inay saarnaan diyaarad iyo inay leeyihiin walaalo.

Booqday Faransiiska = {Cali, Nuur, Axmed, Saciid, Layla}

Saamaa diyaarad = {Axmed, Nuur, Caasha, Cabdi, Layla, Isra}

Leeyihiin walaalo = {Suad, Cabdi, Yacquub, Isra, Nuur, Cali}

Waa kuwaas magacyada 10 arday?

Cali, Nuur, Axmed, Saciid, Layla, Caasha, Cabdi, Isra, Suad, Yacquub

Liisinta natiijooyinka ka imanaya laba dhacdo oo ka badan



10 arday ayaa la weyddiiyay inay waligood booqdeen Faransiiska, inay raaceen diyaarad iyo inay leeyihiin walaalo.

Booqday Faransiiska = {Cali, Nuur, Axmed, Saciid, Layla}

Raacay diyaarad = {Axmed, Nuur, Caasha, Cabdi, Layla, Isra}

Walaalo leh = {Suad, Cabdi, Yacquub, Isra, Nuur, Cali}

Ardaygee ayaa booqday Faransiiska, raacay diyaarad oo walaalo leh?

Nuur

Liisinta natiijooyinka ka imanaya laba dhacdo oo ka badan



10 arday ayaa la weyddiiyay inay waligood booqdeen Faransiiska, inay raaceen diyaarad iyo inay leeyihiin walaalo.

Booqday Faransiiska = {Cali, Nuur, Axmed, Saciid, Layla}

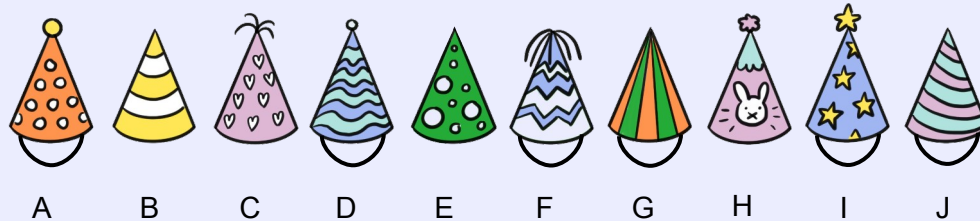
Raacay diyaarad = {Axmed, Nuur, Caasha, Cabdi, Layla, Isra}

Walaalo leh = {Suad, Cabdi, Yacquub, Isra, Nuur, Cali}

Ardayaadkee ma laha walaalo?

Axmed, Saciid, Layla iyo Caasha

Waa halkan xirmo koofiyadood xafladeed.

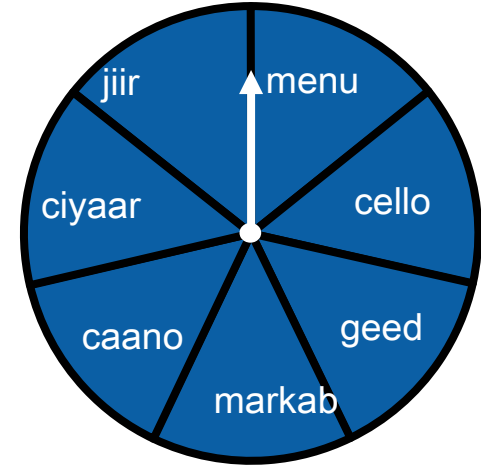


Suad waxay rabtaa koofiyad xafladeed oo xariiqyo leh, dusha sare leh iyo xadhig. Koofiyadaha tee ayaa buuxinaya shuruudaha Suad?

Koofiyadaha D iyo F

1) Cali, Isra iyo Cabdi waxay ciyaarayaan ciyaar iyagoo isticmaalaya wareeggan. Cali wuxuu helayaa dhibic haddii eraygu ku bilaabmo m, Isra wuxuu helayaa dhibic haddii eraygu leeyahay afar xaraf, Cabdina wuxuu helayaa dhibic haddii eraygu ku dhamaado shaqal.

- a) Liis garsoorayaasha (outcomes) ee Cali dhibic ka helo.
- b) Liis garsoorayaasha (outcomes) ee Isra dhibic ka helo.
- c) Liis garsoorayaasha (outcomes) ee Cabdi dhibic ka helo.
- d) Liis garsoorayaasha (outcomes) ee Cali iyo Isra dhibic ka helaan.
- e) Liis garsoorayaasha (outcomes) ee Isra iyo Cabdi dhibic ka helaan.
- f) Liis garsooraha (outcome) ee dhammaantood dhibic ka helaan.



Hawsha B Liis garsoorayaasha (outcomes) ka badan laba dhacdo



2) 10 xayawaan ayaa loo kala saaray saddex qaybood, haddii ay yihiin kuwa halis ku jira (critically endangered), haddii ay yihiin naasleyda (mammal) iyo haddii ay ku nool yihiin berriga.

Halis ku jira (Critically endangered) = {black rhino, hawksbill turtle, orangutan, vaquita, saola}

Naasleyda (Mammal) = {black rhino, orangutan, vaquita, blue whale, african wild dog, saola, sea lion, tiger}

Xayawaanka berriga (Land animal) = {black rhino, orangutan, african wild dog, monarch butterfly, macaw, saola, tiger}

a) Liis dhammaan naasleyda berriga ee halis ku jira.

b) Liis dhammaan naasleyda aan halis ku jirin.

1) Cali, Isra iyo Cabdi waxay ciyaarayaan ciyaar iyagoo isticmaalaya wareeggan (spinner). Cali wuxuu dhibic ka helaa haddii eraygu ka bilaabmo m, Isra wuxuu dhibic ka helaa haddii eraygu leeyahay afar xaraf, Cabdi wuxuu dhibic ka helaa haddii eraygu ku dhamaado shaqal (vowel).

a) Liis garsoorayaasha (outcomes) ee Cali helo dhibic.

{jiir (mouse), menu, ciyaar (match), caano}

b) Liis garsoorayaasha (outcomes) ee Isra helo dhibic.

{menu, geed, markab, caano}

c) Liis garsoorayaasha (outcomes) ee Cabdi helo dhibic.

{menu, cello, geed, jiir (mouse)}

d) Liis garsoorayaasha (outcomes) ee Cali iyo Isra helaan dhibic.

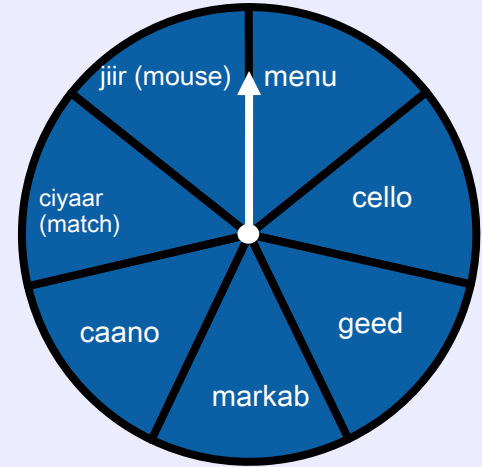
{menu, caano}

e) Liis garsoorayaasha (outcomes) ee Isra iyo Cabdi helaan dhibic.

{menu, geed}

f) Liis garsooraha (outcome) ee dhammaantood helaan dhibic.

{menu}



2) 10 xayawaan ayaa loo kala saaray saddex qaybood, haddii ay yihiin kuwa halis ugu jira dabar go'a, haddii ay yihiin naasley iyo haddii ay ku nool yihiin berriga.

Halis ugu jira dabar go'a (Critically endangered) = {black rhino, hawksbill turtle, orangutan, vaquita, saola}

Naasley (Mammal) = {black rhino, orangutan, vaquita, blue whale, african wild dog, saola, sea lion, tiger}

Xayawaan berri (Land animal) = {black rhino, orangutan, african wild dog, monarch butterfly, macaw, saola, tiger}

a) Liis dhammaan xayawaanka dhulka ku nool ee halis ku jira si weyn.

{wiyl madow, orangutan, saola}

b) Liis dhammaan xayawaanka aan halis ku jirin si weyn.

{balaay buluug, ey duurjoog ah, libaax badeed, shabeel}

Soo koobid Isticmaalka liisaska si loo muujiyo natiijooyinka in ka badan laba dhacdo

Natiijooyinka in ka badan laba dhacdo ayaa la sheegi karaa ama la liisi karaa.

Marka la liisayo natiijooyinka waxaa fiican in si nidaamsan loo sameeyo, si looga fogaado ku celis ama ka tag.