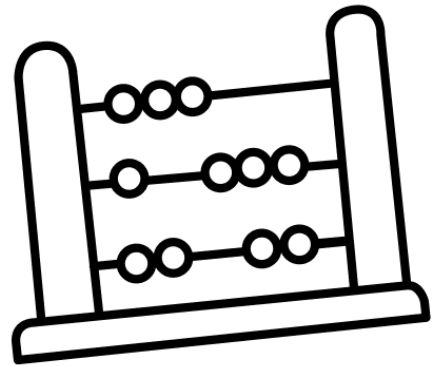


Warbaahinta (Media) - filimaan iyo ciyaaraha

Maths

Unit Xisaabta (Xisaab) goobta shaqada



Natiijo

Waxaan fahmi karaa sida xisaabta (Xisaab) loogu isticmaalo warshadaha warbaahinta (media).

Aragti qasab ah (Forced perspective) waa farsamo ka dhigaysa shay inuu u muuqdo mid ka weyn, ka yar, ka fog ama ka dhow siduu dhab ahaan u yahay.

Warbaahinta (Media) - filimaan iyo ciyaaraha



Filimaan



Ciyaaraha

Cabdi wuxuu yidhi: 'Qofka fadhiya waa inuu ka dheeraadaa qofka socda.'



Tani ma aha mid run ah oo lama huraan ah. Qofka socda wuu ka fog yahay kamaradda, sidaas darteed wuxuu u muuqdaa mid ka yar.



Mid ka mid ah dadkan ayaa ka dheeraada kan kale.

a

Run - waan arki karnaa tan.

b

Been - waxay isku dheeryihiin.

c

Laga yaabee - macluumaad ku filan ma jiro.



Si loo 'dhagro' qof inuu u arko shay qaab gaar ah, aragtidiisa (perspective) waa la maareyn karaa.

Aragti qasab ah (Forced perspective) waa farsamo ka dhigaysa shay inuu u muuqdo mid ka weyn, ka yar, ka fog ama ka dhow siduu dhab ahaan u yahay.

Aragtida qasabka ah (forced perspective) aad bay ugu faa'iido badan tahay samaynta filimada, sababtoo ah waa beddelka ugu jaban ee CGI.

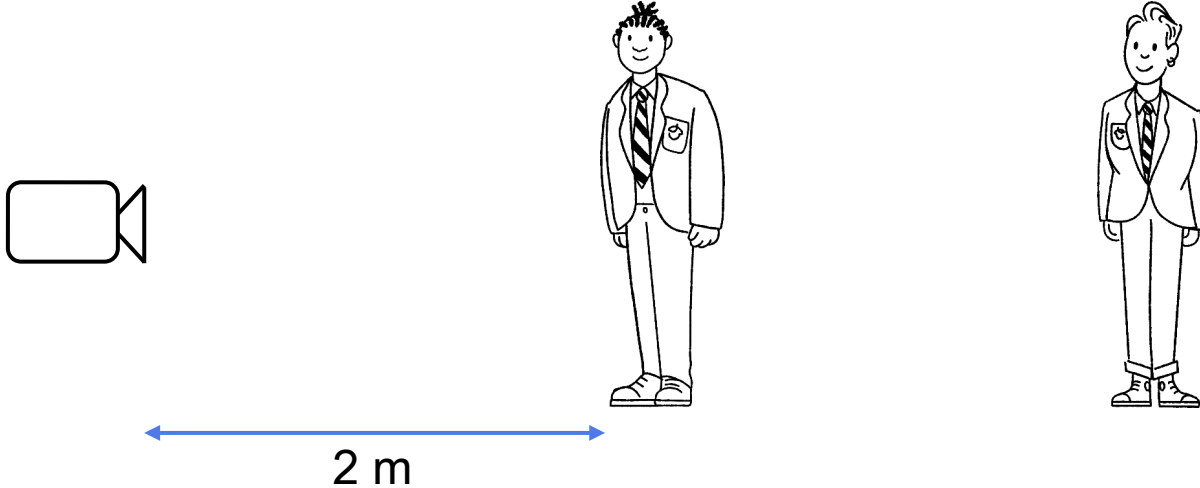
Filimada The Lord of the Rings waxay isticmaaleen aragtida qasabka ah (forced perspective) si ay u muujiyaan qaar ka mid ah jilayaasha inay ka dheer yihiin ama ka gaaban yihiin kuwa kale.

Waxa ugu horreeya ee aan u baahan nahay inaan ogaanno waa inta qofku ka dheer yahay ama ka gaaban yahay.

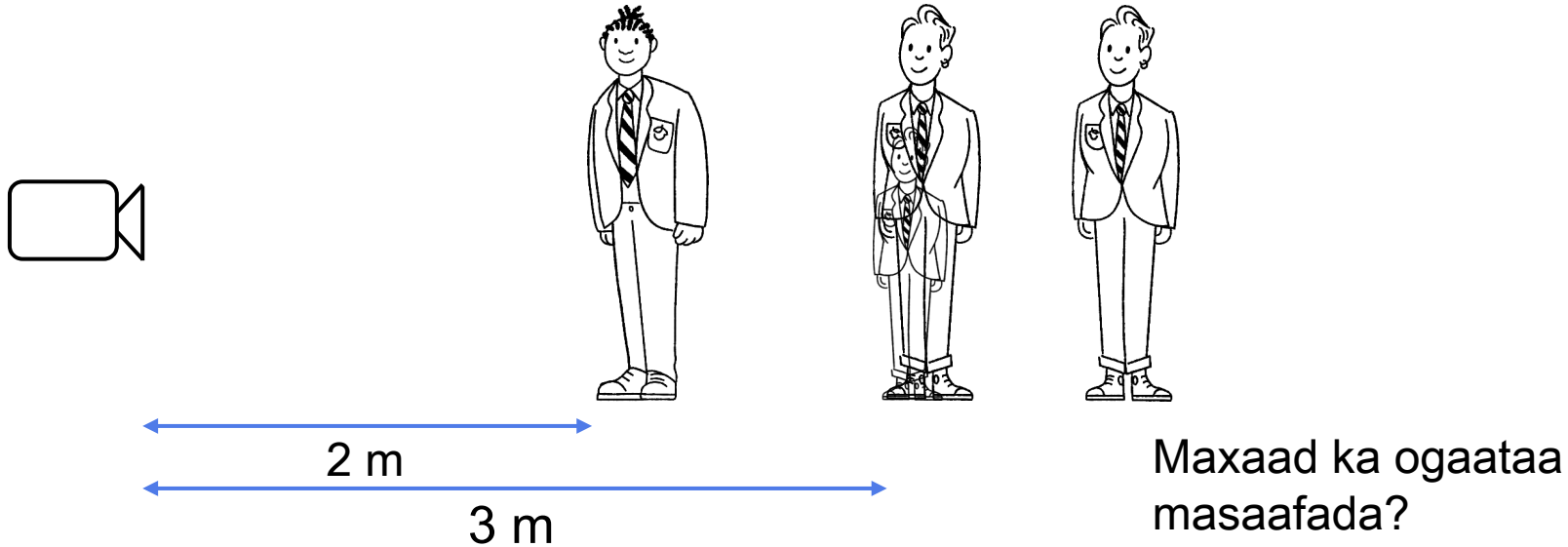
Yacquub iyo Saciid waa isku dherer. Waxay rabaan inay duubaan fiidiyoow ka muuqdo in Saciid yahay laba meelood oo saddex meelood ah (two thirds) dhererka Yacquub.



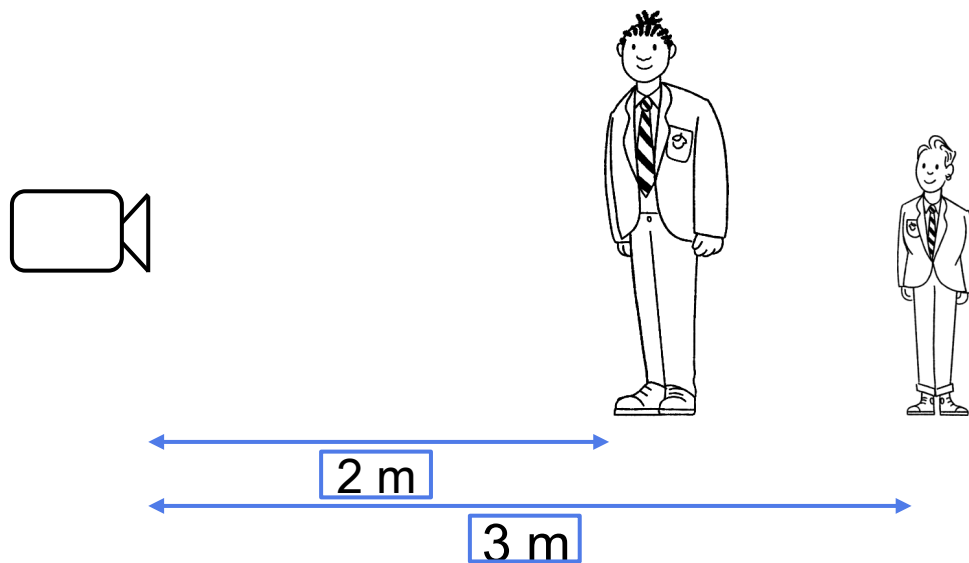
Yacquub wuxuu taagan yahay 2 m u jira kamarada.



Si Saciid ugu muuqdo inuu yahay laba meelood oo saddex meelood ah (two thirds) dhererka Yacquub, Saciid waa inuu istaago halkan.

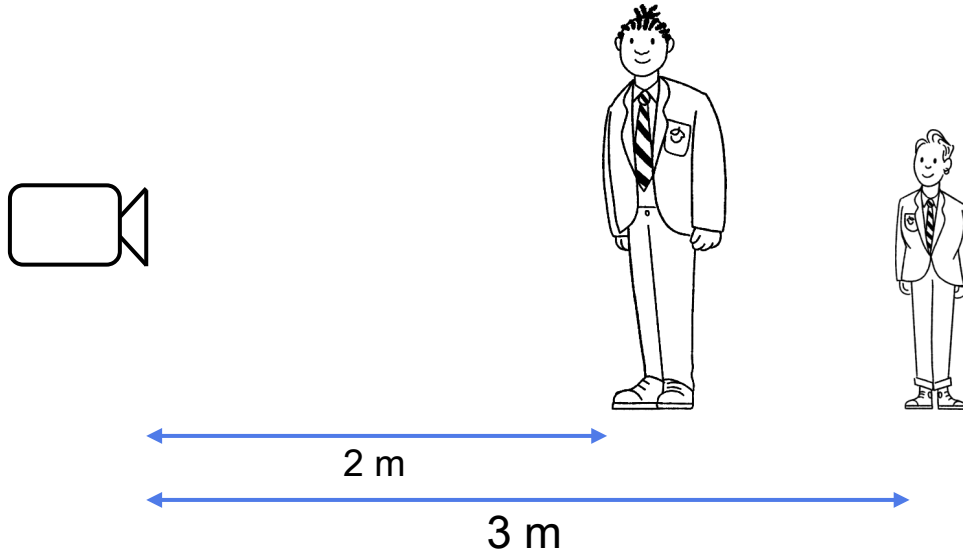


In order for Sam to appear to be two thirds of Jacob's height, Sam needs to stand here.



$$2 \times \frac{3}{2} = 3$$

Si Saciid ugu muuqdo inuu yahay laba meelood oo saddex meelood ah (two thirds) dhererka Yacquub, Yacquub waa inuu istaago masafo u jira kamarada oo ah laba meelood oo saddex meelood ah (two thirds) masaafada Saciid u jiro kamarada.



$$3 \times \frac{2}{3} = 2$$

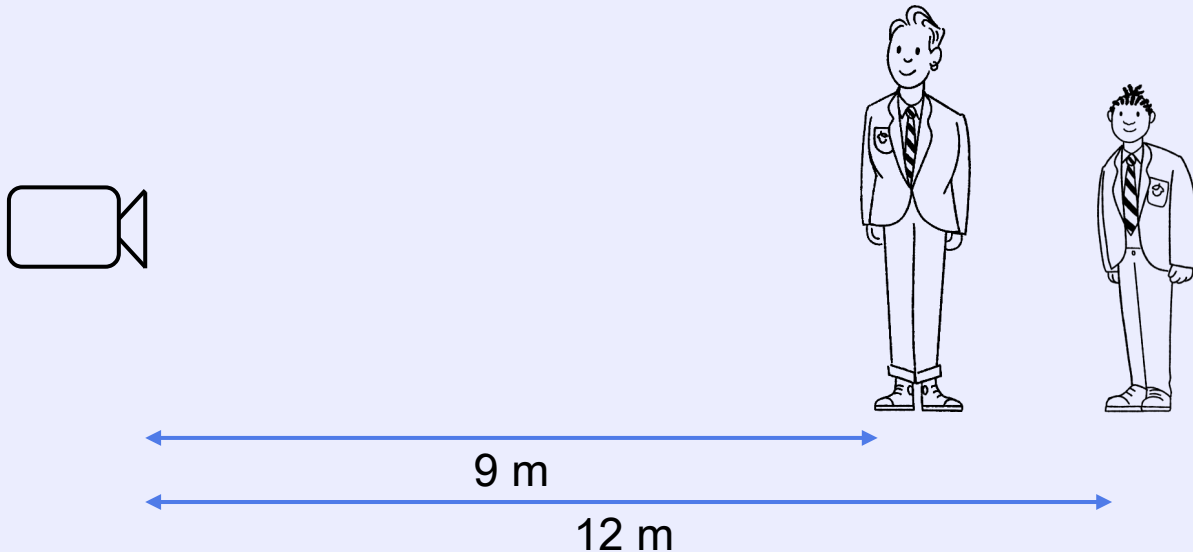
Yacquub iyo Saciid waa isku dherer. Waxay rabaan inay duubaan fiidiyoow ka muuqdo in Yacquub yahay saddex meelood oo afarta meelood ah (three quarters) dhererka Saciid.

Haddii Yacquub istaago 12 m u jira kamarada, imisa ayay tahay masaafada Saciid u jiro kamarada?



Yacquub iyo Saciid waa isku dherer. Waxay rabaan inay duubaan fiidiyoow ka muuqdo in Yacquub yahay saddex meelood oo afarta meelood ah (three quarters) dhererka Saciid.

Haddii Yacquub istaago 12 m u jira kamarada, imisa ayay tahay masaafada Saciid u jiro kamarada?



1) Waqtiga baaritaanka.

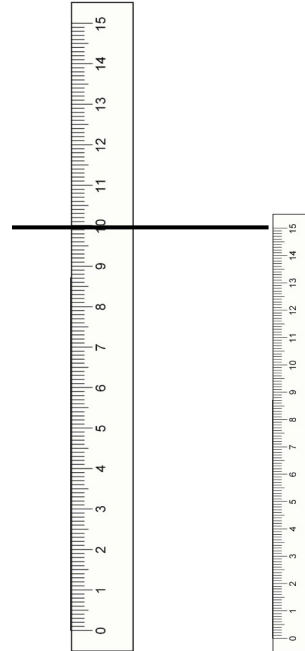
Waxaad u baahan doontaa:

- laba xisaab (isku cabbir)
- hal cabbir (tape measure)

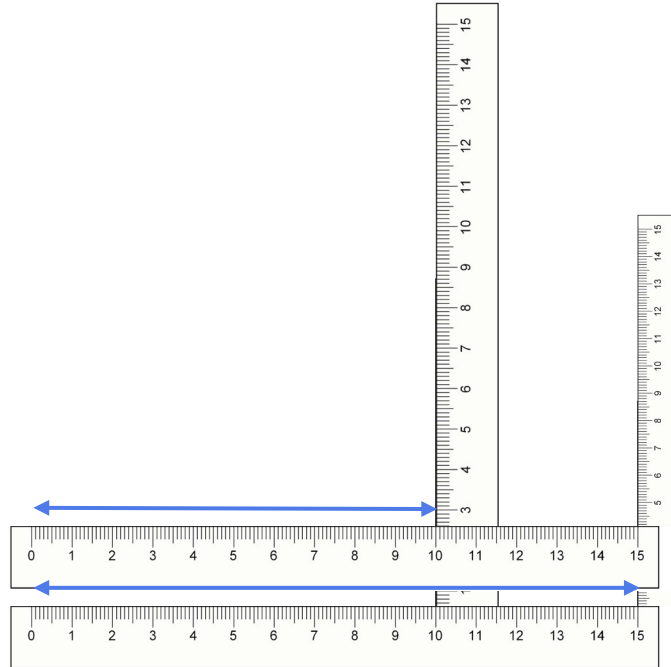
1) Dhig xisaabtaada cidhifka gaaban ee miiska (waxaa laga yaabaa inaad u baahan tahay inaad ku tiiriso buugaag). Dhig xisaabta kale meel ka fog isla jiho.



1) Fadhiiso si indhahaagu u la siman yihiin dusha sare ee xisaabta 'yari'. Isticmaal xisaabta 'weyn' si aad u qiyaasto inta ay dhererka xisaabta 'yari' tahay.



1) Hadda cabbir masaafada u dhaxaysa meesha aad fadhiday iyo xisaab kasta adigoo isticmaalaya cabbirka (tape measure).



1) Waa maxay xiriirka ka dhexeeya labada masafo iyo dhererka la arkay ee xisaabta 'yari'?

Ku celi baaritaankan marar badan, adigoo dhigaya xariirka labaha meelo kala duwan.

Maxaad dareemi kartaa?



1) Waa maxay xiriirka ka dhexeeya labada masafo iyo dhererka la arkay ee xisaabta 'yari'?

Xisaabta 'weyn' waxay ahayd 10 cm u jirta, xisaabta 'yari'na waxay ahayd 15 cm u jirta.

Xisaabta 'weyn' waxay ahayd laba meelood oo saddex meelood ah masaafada xisaabta 'yari'.

Xisaabta 'yari' waxay ahayd laba meelood oo saddex meelood ah dhererka xisaabta 'weyn'.



Warbaahinta - filimaan iyo ciyaaraha



Filimaan



Ciyaaraha

Filimaan animasho (animated films) iyo ciyaaraha kombiyuutarka (computer games) waxaa lagu abuuraa xisaab (maths).

Tusaale: Sharax sida geesigu (hero) ugu gaari karo barta B.



x B

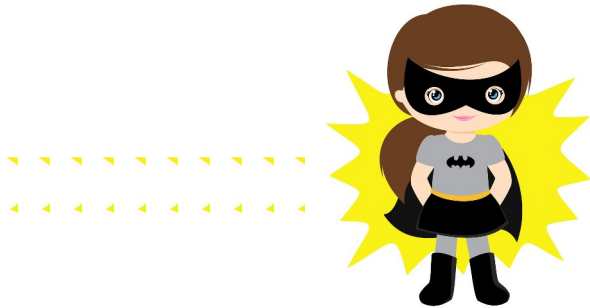
Iyadu waxay tagtaa halkaas.

Kani ma aha jawaab fiican sababtoo ah ma naqaan wadadii uu geesigu (hero) maray. Jilayaasha (characters) waa inay si siman (smoothly) u dhaqaaqaan inta u dhaxaysa dhibcaha, ma aha inay isku milicsadaan (blink) (haddii aysan taasi ahayn awoodooda gaarka ah).



Waxay u dhaqaaqdaa midig (right) ka dibna kor (up).

Kani wuu ka fiican yahay maadaama aan hadda qabno fikrad ku saabsan wadada. Si kastaba ha ahaatee, iyada oo aan lahayn masaafo (distances), geesigu (hero) wuxuu ku dhaman karaa meel khaldan.



x B



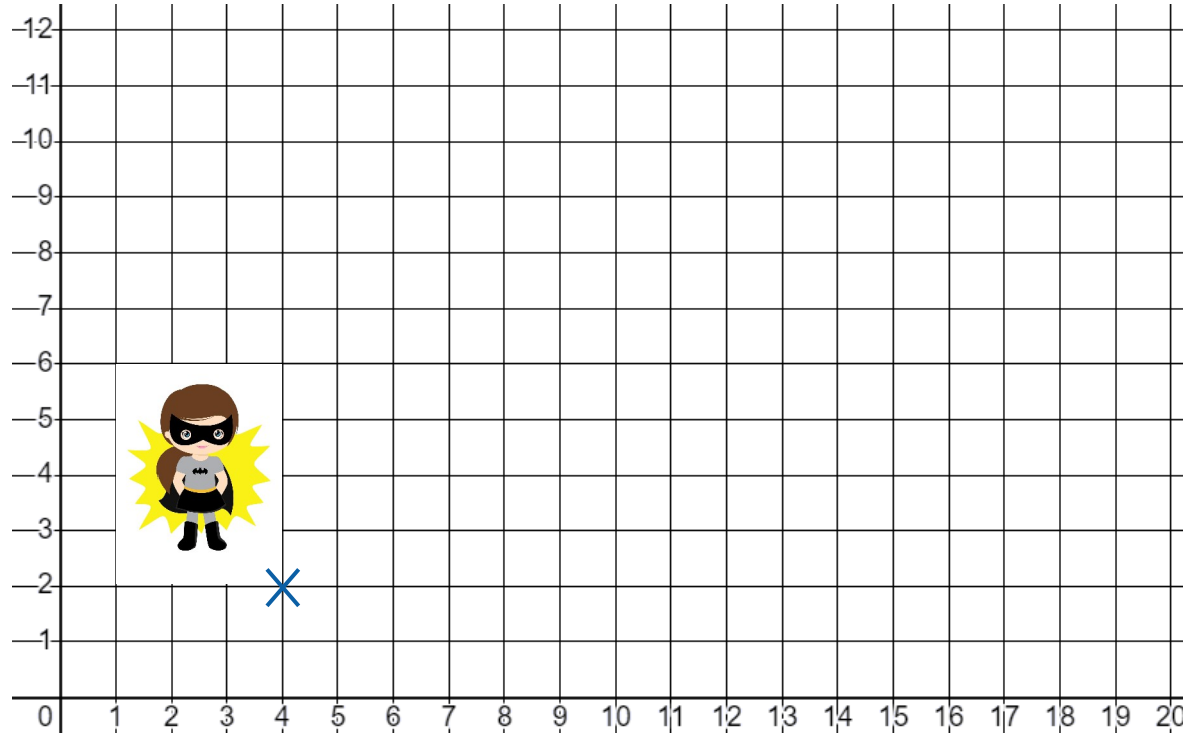
Adigoo geesiga (hero) saaraya shabakad sku-duwayneed (coordinate grid), dhaqhaqaqa (movement) geesiga waxaa lagu shaxi karaa marka loo eego meesha uu ka bilaabay iyo meesha uu ku dhammaaday.

Si kale haddii loo dhigo, waxaan u shaxi doonaa dhaqhaqaqaan (movement) sida weyneyn (translation).

Ciyaaraha (Games)

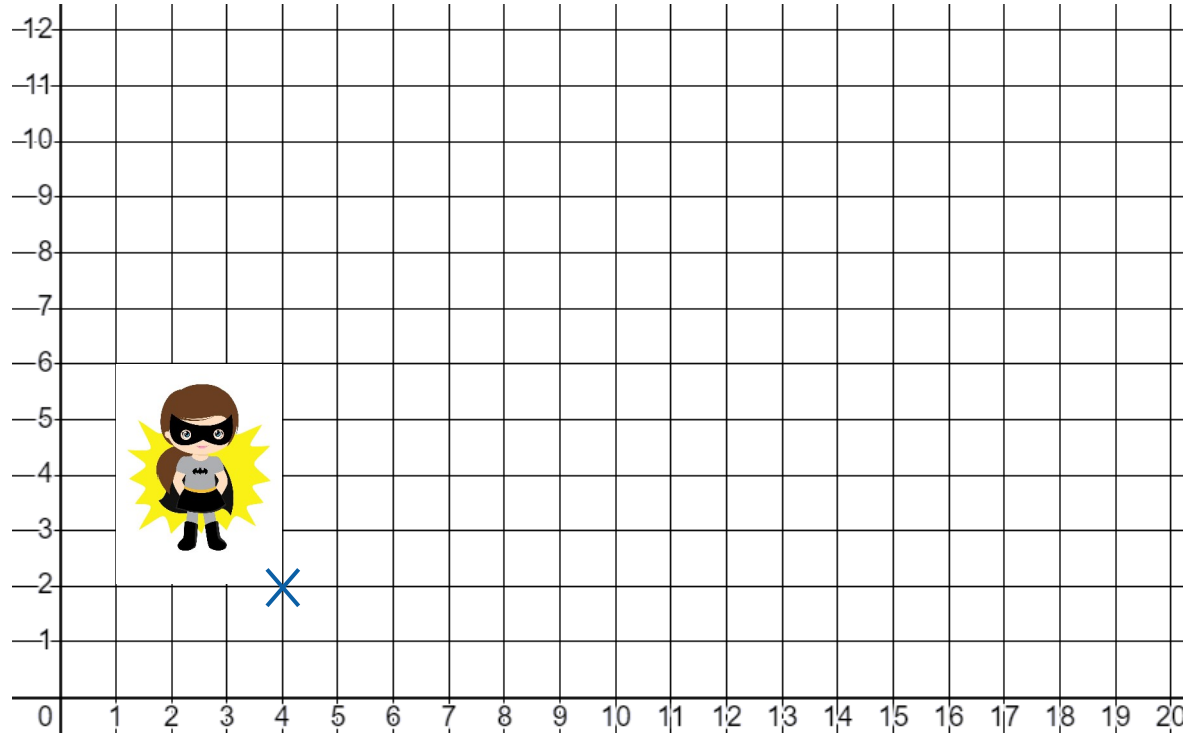


Sharaxaad



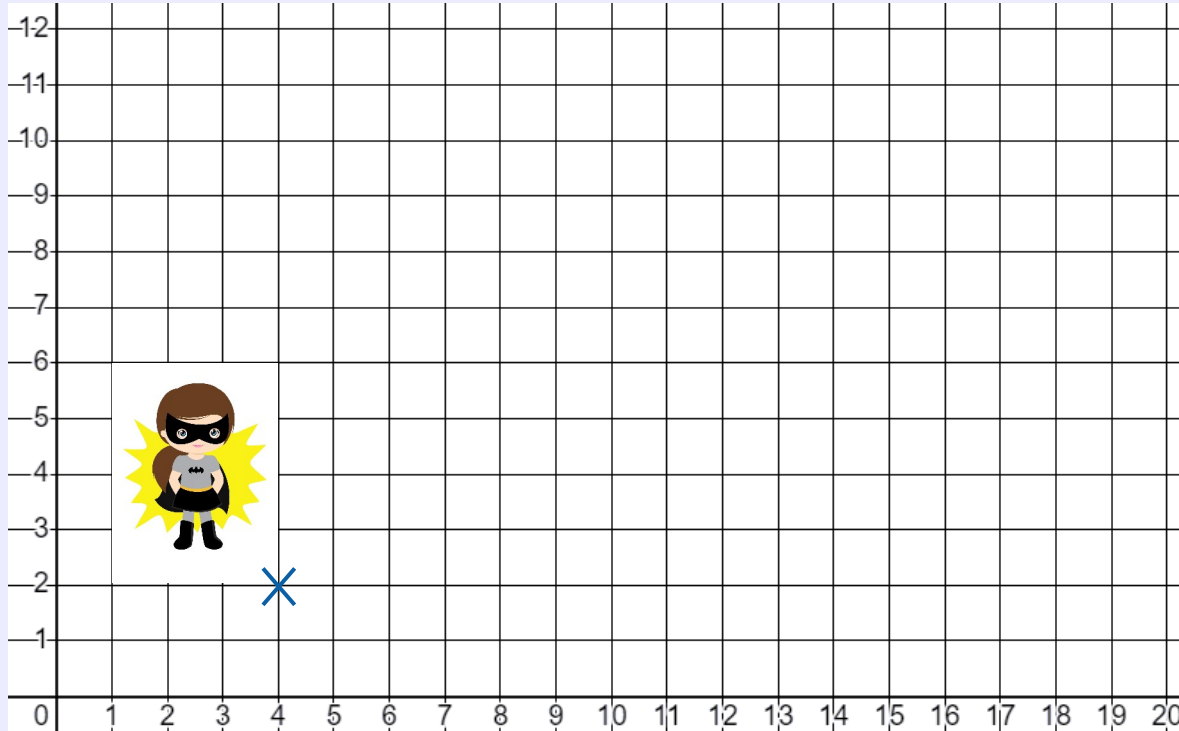
Geesiga (hero) waxaa la saarayaa shabakad (grid) oo leh dhidibyada x iyo y (x and y axes).

Gees (corner) ka mid ah sawirka ayaa la calaamadeeyay.



Hadda waxaa suurto gal ah in lagu sharaxo dhaqdhaqaaqa (movement) geesiga (hero) ilaa meel kasta oo la bixiyay.

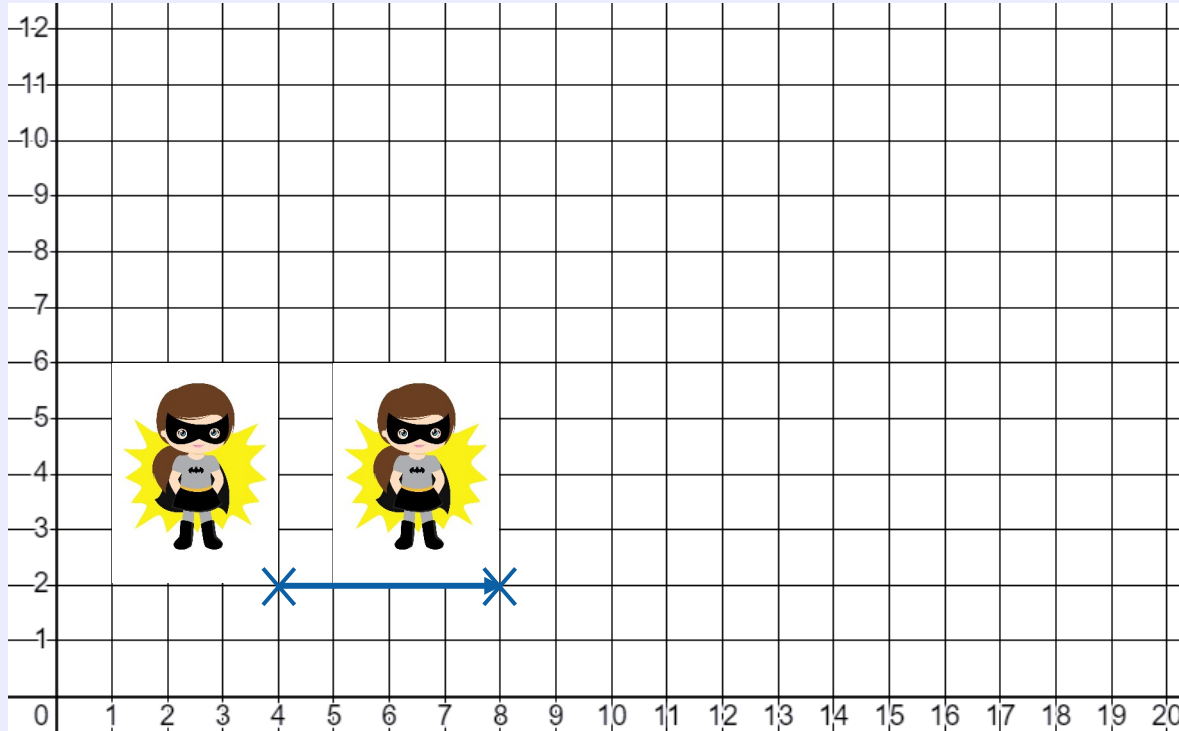
Ciyaaraha (Games)



Sharax dhaqdhaqaaqa
(movement) geesiga (hero)
laga bilaabo barta uu ka
bilaabay ilaa barta:

- a) (8, 2)
- b) (4, 8)
- c) (9, 6)
- d) (10, -1)

Ciyaaraha (Games)

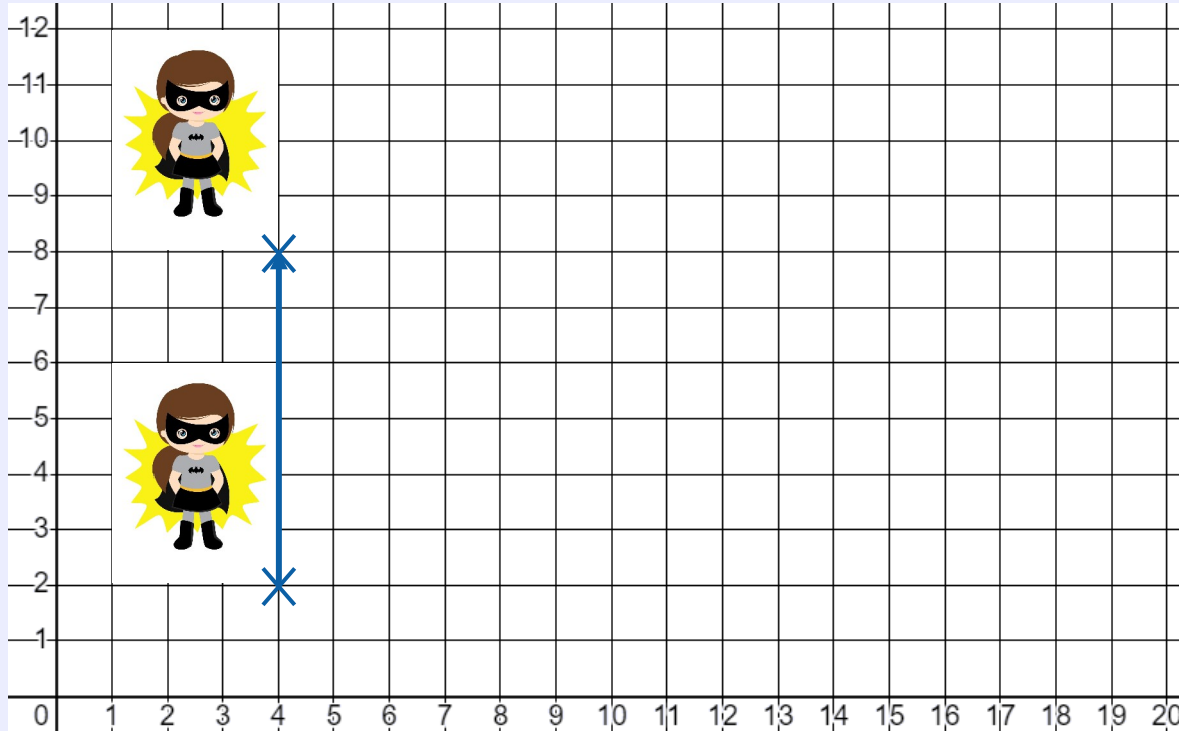


Sharax dhaqdhaqaaqa
(movement) geesiga (hero)
laga bilaabo barta uu ka
bilaabay ilaa barta:

a) (8, 2)

Weyneyn (Translation) oo ah 4 cutub
(units) midig (right).

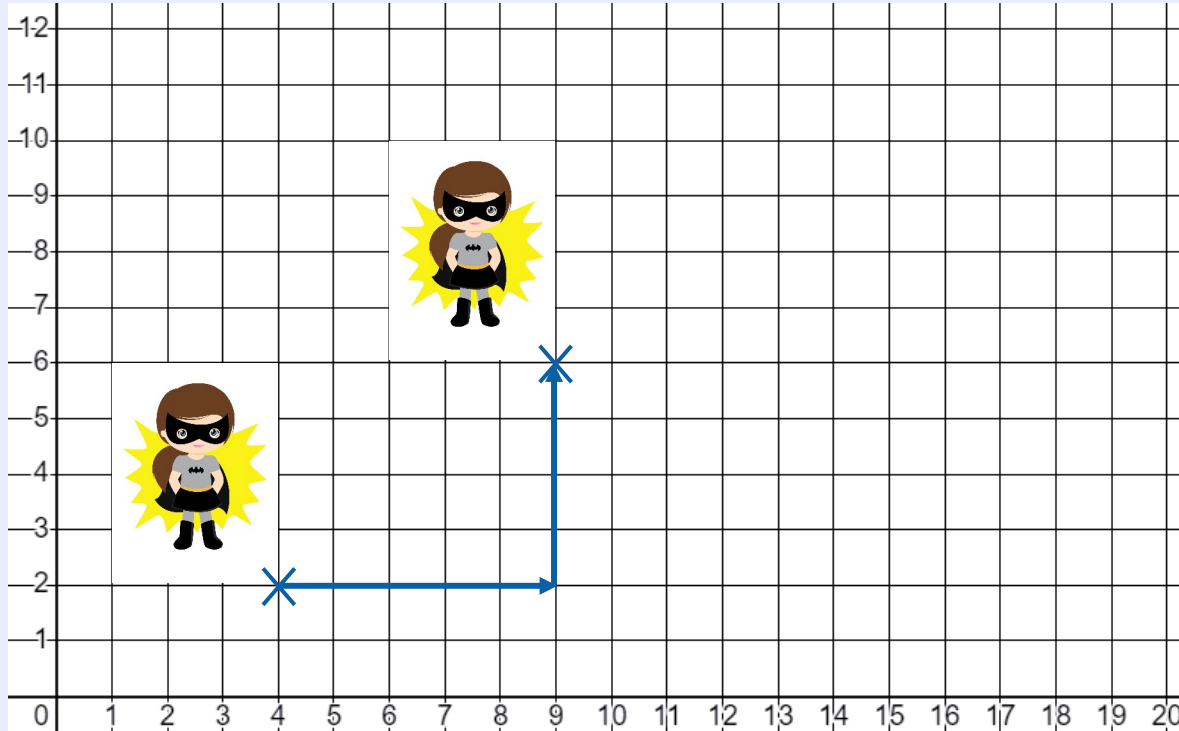
Ciyaaraha (Games)



Sharax dhaqdhaqaaqa (movement) geesiga laga bilaabo barta uu ka bilaabay ilaa barta:

b) (4, 8)

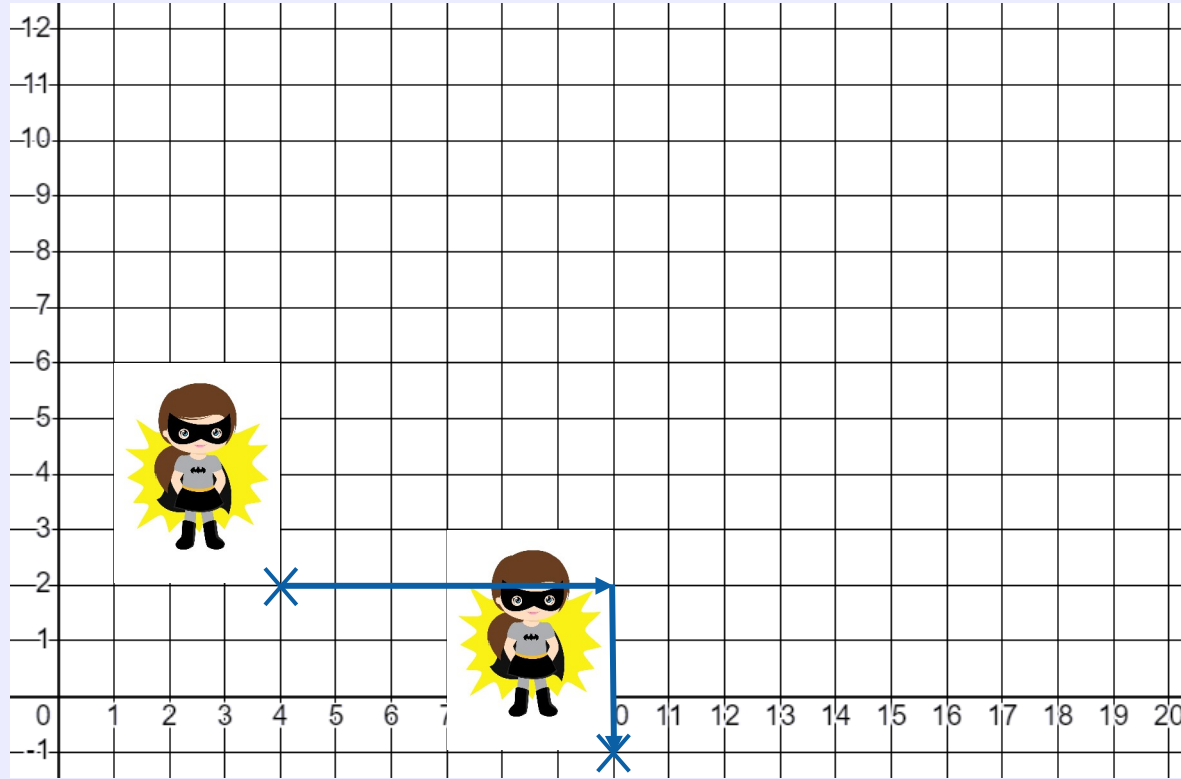
Weyneyn (Translation) oo ah 6 cutub oo kor ah.



Sharax dhaqdhaqaaqa (movement) geesiga laga bilaabo barta uu ka bilaabay ilaa barta:

c) (9, 6)

Weyneyn (Translation) oo ah 5 cutub midig iyo 4 cutub kor.



Sharax dhaqdhaqaaqa
(movement) geesiga
laga bilaabo barta uu ka
bilaabay ilaa barta:

d) $(10, -1)$

Weyneyn (Translation) oo ah 6 cutub
midig iyo 3 cutub hoos.

Animators waxay isticmaalaan isbeddello (transformations) si ay u maareeyaan jilayaasha filimada iyo ciyaaraha.

Weyneyn (Translation) wuxuu dhaqaaqiya jilaha.

Weyneyn (Enlargement) wuxuu beddelaa cabbirka (marka jiluhu u soo dhawaado shaashadda ama ka fogaado).

Wareeg (Rotation) wuxuu u oggolaanayaa jilaha inuu leexdo.

Hadafka - gaar hadafka 3 jeer.

Adigu waxaad tahay ciyaaryahan A.

Qor weyneyn (translation) loo baahan yahay si aad u gaarto hadafka.

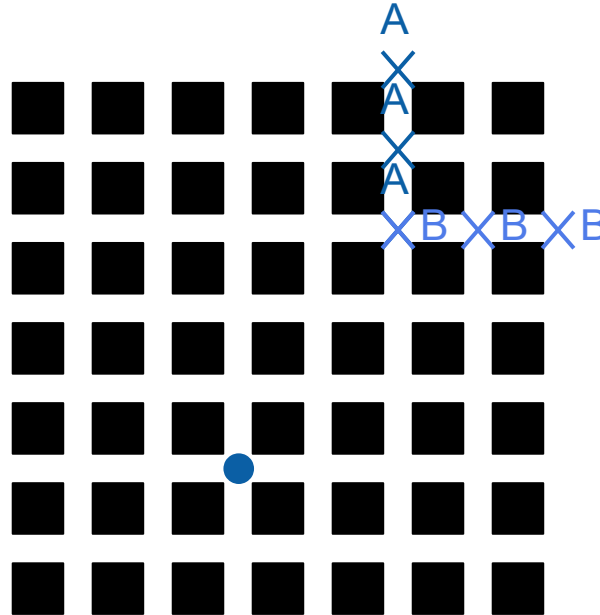
Haddii aad u dhaqaaqdo meel isku mid ah sida kombiyuutarka, waxaad joojisaa dhaqdhaqaaqaaga (haddii aadan gaarin hadafka). Dhaqdhaqaaqu waa hal cutub oo kordhin ah.

Waa inaad ka gudubtaa kombiyuutarka oo aad gaartaa hadafka 3 jeer ama ka yar.

Tusaale: = Hadaaf ●

Ciyaaryahanka A

5 cutub hoos
2 cutub bidix



Kombuyuutar (B)

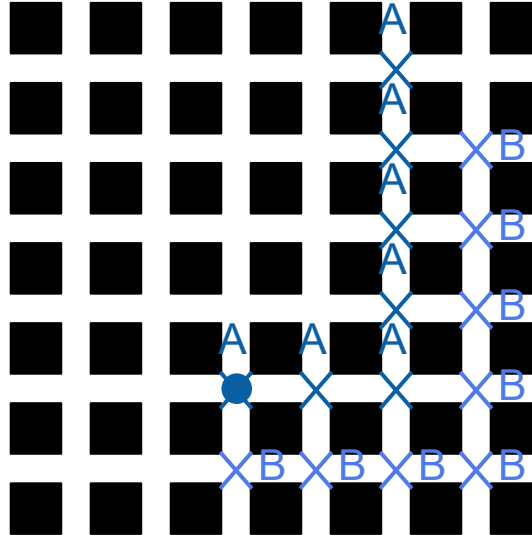
4 cutub bidix
3 cutub hoos

Maadaama ay isku dhaceen, dhaqdhaqaaq (movement) wuu joogsadaa. Ciyaaryahanka A waa inuu hadda la yimaado turjumaad (translation) cusub si uu u gaaro hadafka.

Tusaale: = Hadaafka

Ciyaaryahanka A

4 cutub hoos
2 cutub bidix



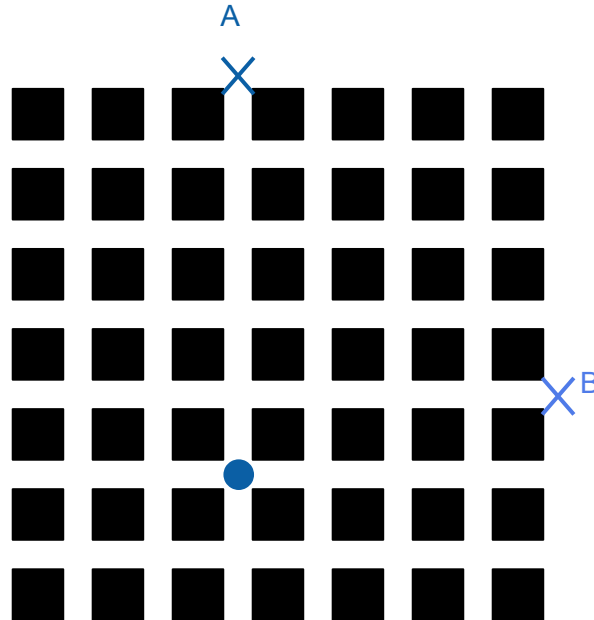
Kombuyuutar (B)

4 cutub hoos
3 cutub bidix

Ciyaaryahanka A wuxuu gaaray hadafka oo wuxuu ka adkaaday kombuyuutarka!

1) = Harafka

Ciyaaryahanka A



Kombyuutar (B)

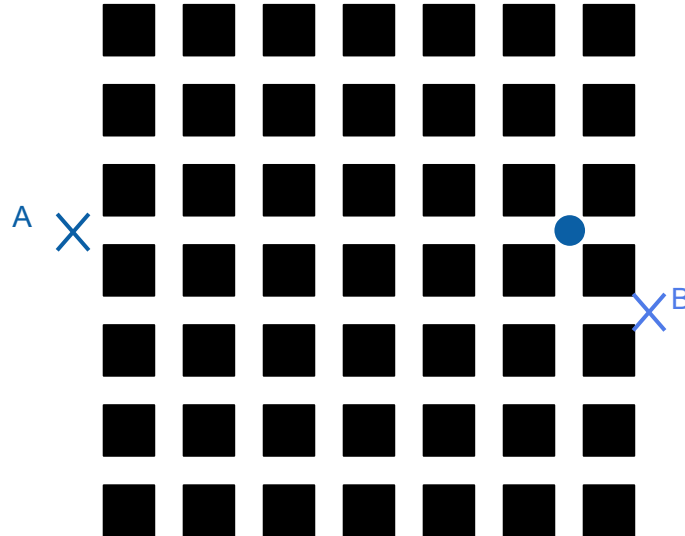
Wareegga 1: 4 cutub bidix

Wareegga 2: 1 cutub midig, 1 cutub hoos

Wareegga 3: 2 halbeeg oo kor (2 units up)

2) = Goal (Goal)

Ciyaaryahanka A (Player A)



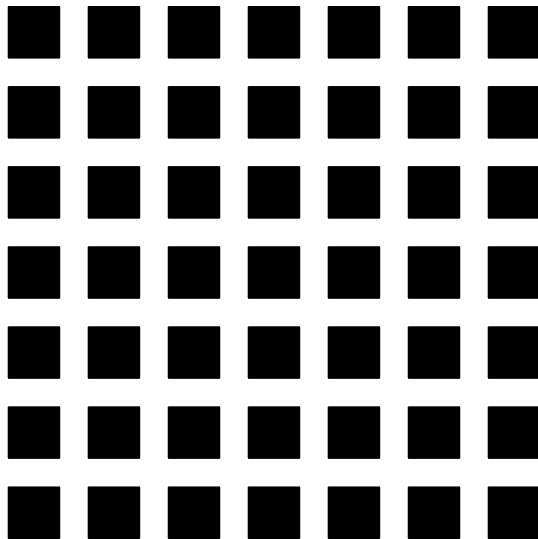
Kombiyuutarka (B) (Computer (B))

Wareegga 1: 2 halbeeg oo bidix, 1 halbeeg oo kor
(2 units left, 1 unit up)

Wareegga 2: 1 halbeeg oo bidix (1 unit left)

Wareegga 3: 1 halbeeg oo kor, 2 halbeeg oo midig
(1 unit up, 2 units right)

3) Naqshadee ciyaartaada. Go'aami meesha A iyo B ay ka bilaabayaan iyo meesha gooldka (goal) uu yahay. Qor tilmaamahaaga kombiyuutarka. Ku beddel saaxiib (peer) oo eeg haddii aad ka adkaan kartaan ciyaarta midba midka kale.

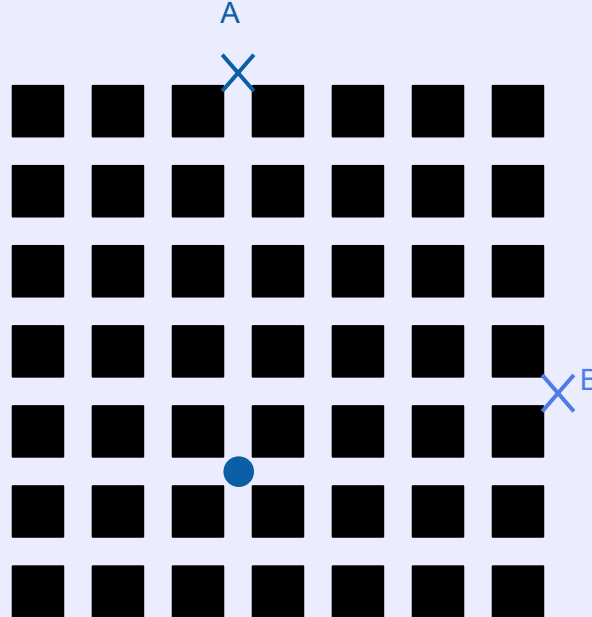


1) = Goal (Goal)

Ciyaaryahanka A (Player A)

E.g.
Wareegga 1: 1 halbeeg oo bidix, 5 halbeeg oo hoos (1 unit left, 5 units down)

Wareegga 2: 1 halbeeg oo midig (1 unit right)



Kombiyuutarka (B) (Computer (B))

Wareegga 1: 4 halbeeg oo bidix (4 units left)

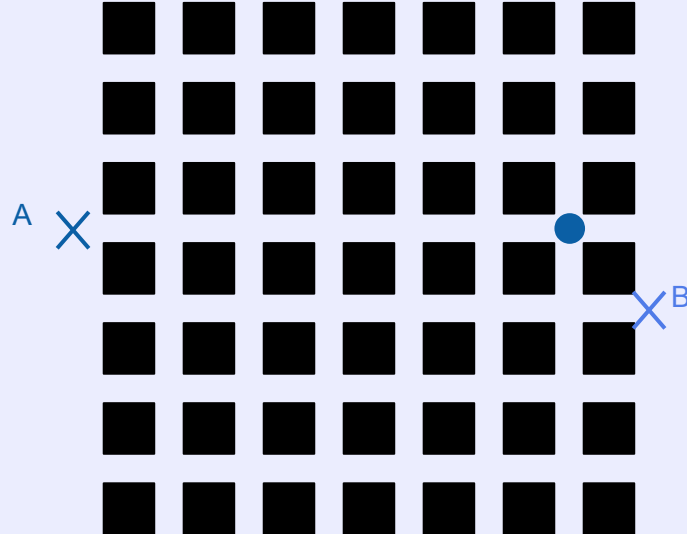
Wareegga 2: 1 halbeeg oo midig, 1 halbeeg oo hoos (1 unit right, 1 unit down)

Wareegga 3: 2 halbeeg oo kor (2 units up)

2) = Goal (Goal)

Ciyaaryahanka A (Player A)
E.g.
Wareegga 1: 1 halbeeg kor, 6 halbeeg midig

Wareegga 2: 1 halbeeg hoos



Kombuyuutar (B)

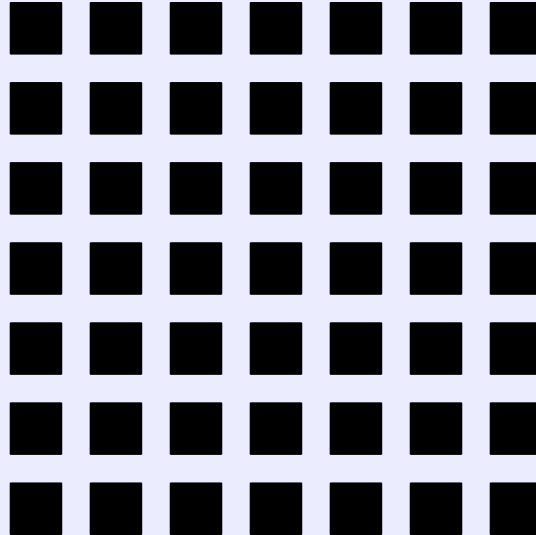
Wareegga 1: 2 halbeeg bidix, 1 halbeeg kor

Wareegga 2: 1 halbeeg bidix

Wareegga 3: 1 halbeeg kor, 2 halbeeg midig

3) Naqshadeed ciyaartaada. Go'aanso halka A iyo B ay ka bilaabayaan iyo halka uu yahay hadafka. Qor tilmaamahaaga kombuyuutarka. La beddel mid walaal ah oo arag haddii aad iska badin karaan ciyaarta.

Waxaad wax ka beddeli kartaa ciyaarta adigoo u oggolaanaya xeerar ka sii adag haddii aad rabto.



Aragtida qasabka ah (forced perspective) waa farsamo ka dhigaysa shay inuu u muuqdo mid ka weyn, ka yar, ka fog ama ka dhow siduu yahay.

Weyneyn (Scaling) ayaa loo isticmaalaa in lagu gaaro tan.

Isbeddellada (Transformations) waxaa isticmaala animators-ku si ay u qeexaan dhaqdhaqaaqa (movement) jilayaasha filimada iyo ciyaaraha.