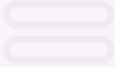# Fasalka 8aad

## HAGAHA HEERARKA QOYSKA EE MINNESOTA

Waxa Ardaygaaga Fasalka 8aad Loo
Baahan Yahay Inuu Ogaado
Howlaha iyo Tusaalooyinka ELA iyo Xisaabta
Xeeladaha loola Hadlo Macalimiinta
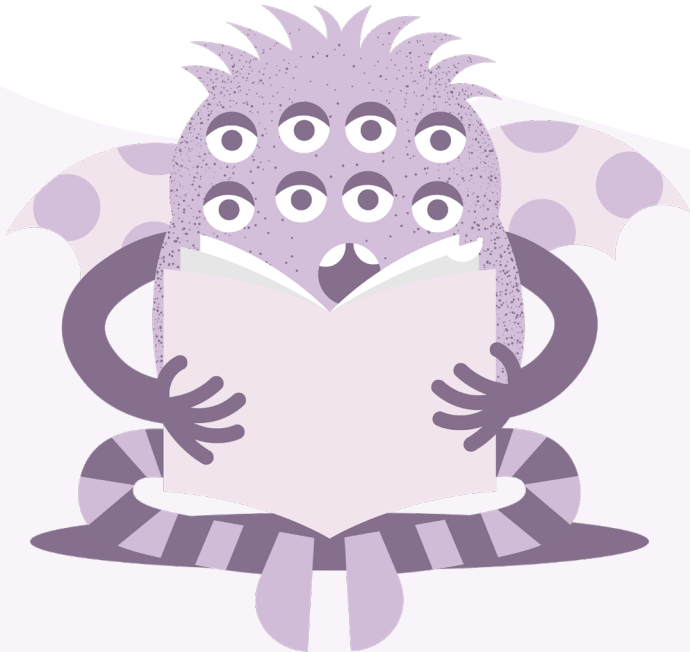
great
MN
SCHOOLS

# Waxyaabaha ku saabsan hagahaan

Qoysasku waxay doonayaan in ay ogaadaan waxa canuggoodu uu dugsiga ku barto. Waxay doonayaan in ay u doodaan canuggooda kana caawiyaan sidii uu ugu guulaysan lahaa dugsiga.

Waaxda Waxbarashada Minnesota waxay go'aamisaa waxa canug kasta uu ku baran doono dugsiga dhammaanba xiisadaha. Hagahaanu wuxuu kaa caawinayaa in aad fahamto heerarkaas oo kujira Faniga Luuqadda Ingiriisiga (ELA) iyo Xisaabta. Arrintaani waxay kaa caawinaysaa in aad iskaashi la samaysato macalimiinta canuggaaga si aad waxbarashada uga taageertaan xiliga fasalka 8aad.

**Kahor inta aadan dib u eegis ku samayn hagahaan, waxaan kugu dhiirigalinaynaa in aad hubiso heerka fasalka uu canuggaagu hadda dhigto** bealearninghero.org/readiness-check-mn**.**

# Hagahaan waxaa kamid ahs

**Waxa loo baahan yahay in canuggaagu uu ogaado uuna awood u yeesho in uu sameeyo–**
**BOGGA 4** EE ELA **IYO BOGGA 17** EE XISAABTA
Qaybta ugu muhiimsan (cilmiga iyo xirfadaha) ee ay ardaydu ku baranayaan dhammaadka fasalka 8aad

**Tusaalooyinka ELA–**
**BOGGA 8** EE ELA **IYO BOGGA 19** EE XISAABTA
Tusaale shaqada canuggaaga laga rabo in uu awood u yeesho in uu qoro dhammaadka fasalka 8aad

**Howlaha maalinlaha ah oo lagu taageerayo waxbarashada–**
**BOGGA 15** EE ELA **IYO BOGGA 21** EE XISAABTA
Qaababka aad ku taageeri karto canuggaaga si uu u barto casharka muhiimka ah iyo xirfadaha ee kujira Faniga Luuqadda Ingiriisiga (ELA) iyo Xisaabta

**Xeeladaha loola hadlo macalimiinta–**
**BOGGA 16** EE ELA **IYO BOGGA 22** EE XISAABTA
Qaabka adiga iyo macalinka canuggaagu aad u wada shaqayn kartaan si aad canuggaaga uga caawisaan koritaanka

**Ereybixinada ereyada Waxbarashada–**
**BOGGA 23**
Qeexitaanada ereyada inta badan waxbarashada loo adeegsado ee khuseeya fasalka 8aad
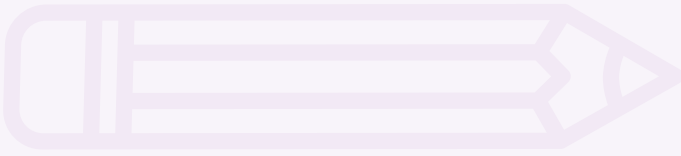
# Faniga Luuqadda Ingiriisiga

**WAXA LOO BAAHNA YAHAY IN CANUGGAAGU UU OGAADO AWOODNA U YEESHO IN UU SAMEEYO**

Fasalka 8aad, ardaydu waxay akhrinayaan qoraalo tafaasiil kala duwan leh oo ku saabsan mowduuc iskumid ah waxayna eegayaan waxa qoraayaashu kaga hadlayaan iyo sida ay uga hadlayaan. Ardaydu waxay isweydiiyaan in qoraayaashu iswaafaqaan iyo in aysan iswaafaqin. Ardayda fasalka 8aad waxay hubiyaan in waxa qoraayaashu sheegayaan ay yihiin kuwo sax ah iyo in kale. Waxay soo xigan doonaan qaybo kamid ah qoraalka waxayna soo gabagabaynayaan caddaynta qoraalka si ay aragtidooda ugu xoojiyaan. Waxay akhrin doonaan si ay wax uga bartaan ereyo cusub wax badanna uga bartaan dunida. Ardaydu waa in ay wax ka akhriyaan sheekooyinka bar khayaaliga ka ah barna dhabta ah. Buugaagtu waa in ay lahaadaan qadarka adaygga qoraalka oo kala duwan ayna baraan waxyaabo ku dad, goobo, iyo fikrado cusub, oo ay kujiraan codadka dadkii hore iyo kuwa hadda ahba ee Dakota & Anishinaabe.

Ardayda fasalka 8aad waa in ay inta badan wax qoraan. Waxa ay qori doonaan layliyo gaagaaban iyo layliyo dhaadheer kuwaas oo qaata maalmo badan. Ardaydu waa in ay bartaan inta badan shuruucda hikaadda, naxwaha, iyo xarakaynta, iyo qaabka loo isticmaalo. Waa in ay si fudud wax u qoraan. Waxay ku tababaran doonaan cilmibaarista, fikirka, iyo dib u qorista ayada oo lagu salaynayo jawaab celinta ka imaanaysa macalinkooda iyo ardayda ay isku fasalka yihiin. Waxay wax ka qori doonaan mowduucyo badan sababo kala duwan awgood.

Si aad u aragto dhammaan heerarka gobolka ELA ee fasalka 8ka fiiri halkan: **education.mn.gov/mde/dse/stds/ela**

*Ardayda fasalka 8aad waxay u baahan yihiin in ay ogaadaan sida howlaha hoose loo qabto marka la gaaro dhammaadka sannadka:*

## XIRFADAHA AKHRIS-QORAALKA

- ☑ Waa in ay akhriyaan qoraalka heerka fasalka 8aad ah, kaasoo ah heerka **Lexile** 925-1185

- ☑ Waa in ay si wanaagsan u akhriyaan qoraalka fasalka 8aad, kaasoo ah 180 erey halkii daqiiqo

- ☑ Waa in ay akhriyaan ayaga oo tilmaamo bixinaya si ay u muujiyaan in ay fahmeen qoraalka marka ay akhrinayaan

- ☑ Waa in ay qoraan ayna dib u qoraan curisyo kuwaas oo leh hikaad, naxwe, iyo xarakooyin sax ah. Waa in ay ka fogaadaan isticmaalka ereyada faraha badan si ay fikraddooda u soo bandhigaan ayna iska ilaaliyaan soo celcelinta aan loo baahnayn

- ☑ Waa in ay isticmaalaan teknoolojiyadda si ay wax u qoraan ulana shaqeeyaan kuwa kale cilmibaarisna ugu sameeyaan mowduuc ayaga oo isticmaalaya ilo la isku haleyn karo oo dhinacyo kala duwan wax ka eegaya

- ☑ **Waa in ay si kale u qor isla micnaha** macluumaadka marka laga tago xigashada iyo dulmarka

- ☑ Waa in aysan marna minguurin shaqada aysan ayagu lahayn, taasoo loo yaqaano **qish**

- ☑ Waa in ay fahmaan **raadkooda dhijitaalka ah**, kaasoo ah waddada xogta aan dhammaanteen kaga tagno internetka

- ☑ Waa in ay 40 erey ku qoraan halkii daqiiqo. Waa in ay ku qoraan ugu yaraan saddex bog halkii saac

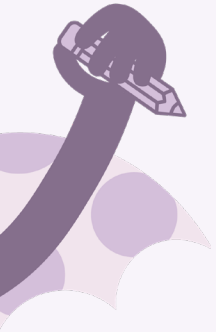## WAX KABARASHADA DUNIDA IYADA OO LA ADEEGSANAYO QORAAL

- ☑ Waa in ay su'aalo weydiiyaan kana jawaabaan qoraalka ay akhriyaan. Waa in ay isu barbardhigaan qoraalo badan mar labaadna u akhriyaan si taxaddar leh si ay u helaan macluumaad gaar ah si ay u xoojiyaan fahamkooda. Waa in ay awoodaan samaynta waxyaabaha soo socda:

  - Waa in ay soo koobaan qoraalka ayaga oo aan fikraddooda ku dhex darin

  - Waa in ay helaan mowduucyada, qodobada muhiimka ah, iyo fikradaha guud

  - Waa in ay bartaan sida qof muhiim ah, dhacdo, ama fikrad loo soo bandhigo iyo qaabka ay isu badalaan

  - Waa in ay sharaxaan sida qaybaha kala duwan ee qoraalku u saameeyo micnaha

  - Waa in ay qeexaan sida sheekooyinku u socdaan iyo qaabka jilayaashu uga jawaabaan

  - Waa in ay bartaan qaabka qoraayaasha iyo aragtidoodu u saamayso qoraalka

  - Waa in ay isu barbardhigaan sheekooyinka khayaaliga ah iyo kuwa taariikhda ah

  - Waa inay su'aal ka weydiiyaan fikirka qoraaga iyo in ay jirto caddayn ku filan sax ahaanshaha fikraddooda

- ☑ Waa in ay helaan micnaha ereyo cusub iyo luuqadda sharraxaada, ayaga oo adeegsanaya fikradaha kujira qoraalka, mowduuca, qaamuusyada, ama ereyga asalka ah

- ☑ Waa in ay fahmaan in qoraalka hal mowduuc kujira uu is diidan yahay marka laga eego xaqiiqooyinka, fikradaha, ama xagga aragtida

- ☑ Waa in ay sameeyaan ayna sababeeyaan sheegasho ama dood oo qaab qoraal ah ama dood wadaag ah. Waa in ay taageeraan sheegashooyinka wata caddaynta saxda ah ee khusaysa ee ka imaanaysa il la rumaysan karo. Waa in ay muujiyaan in ay fahmeen mowduuca ama qoraalka

- Waa in ay wax ka qoraan qoraalka kaddib marka ay akhriyaan. Waa in uu ku daraa hordhac leh jumlad soo koobid ah, tusaalooyin habaysan, iyo gabagabo

- Waa in ay wax sharaxaan ayaga oo adeegsanaya qoraalkooda. Waa in ay qoraalkooda u qaabeeyaan si cad ayna isticmaalaan ereyo gaar ah oo la xiriira mowduuca. Waa in ay isticmaalaan xaqiiqooyin iyo tusaalooyin ka imaaanaya qoraalada si ay u muujiyaan faham

- Waa in ay qoraan fikrado lagu qanci karo. Waa in ay isticmaalaan qaabab kala duwan oo ay akhristaha ku qancin karaan. Waa in ay awoodaan ka jawaabidda isfahamwaaga

- Waa in ay wax qoraan si ay wax uga abuuraan ugana tarjumaan naftooda (gabay ahaan, sheekooyin, taariikh nololeedyo, khuraafaadyo, iyo ruwaayado). Waa in ay kusoo daraan wadasheekaysiyo waafaqsan aragtida iyo mowduuca jilaaga. Waa in ay isticmaalaan qaabka saxda ah (sida, cutubyada, baydadka, xalqooyinka), sheekooyinka isku dhafan, kala saarista, jiibta, iyo hooriska si ay dareen u abuuraan

Hoos waxaad ka helaysaa tusaale ku saabsan qoraal heerka fasalka 8aad ah.[1] Qoraalkaan wuxuu kujiraa heerka Lexile ee 1100. ardayda fasalka 8aad waa in ay awood u yeeshaan in ay si dagan u akhriyaan qoraalka iyo qaab tilmaamo leh. Intaa kaddib, waa in ay awood u yeeshaan in ay kuu sheegaan waxa ka dhacay qoraalka dhexdiisa kana jawaabaan su'aalaha hoose.

### IS JURASSIC PARK POSSIBLE?
**by T.J. Resler**

In the Jurassic Park/Jurassic World movies, scientists bring back dinosaurs that have been extinct for at least 65 million years. (Spoiler alert: Bad idea.) Is this purely fiction, or could we actually see a Brachiosaurus, Triceratops or T. rex stomping around a theme park someday?  To clone, which means to recreate, an extinct dino, you need some of its DNA. DNA is a special material inside every living thing that carries all the instructions for what it'll be like, including how it will look and what it can do (DNA is shaped kind of like a teeny-tiny spiral staircase, but it takes a very powerful, very specialized microscope to see it.)

In the movies, scientists find fragments of dinosaur DNA in the blood of an ancient mosquito. The mosquito had gotten stuck in gooey tree resin, which fossilized into hard amber. The scientists extract the DNA fragments, fill in gaps with other animals' DNA to get a full strand of DNA, and tinker a bit along the way. Then they clone lots of darling baby dinos...which grow up to be not-so-darling adult dinos. The main challenge in creating a real-life Jurassic Park is finding dinosaur DNA. Is it locked away in amber, Jurassic Park-style? Amber does a great job of preserving all kinds of cool things, like fossilized flowers, insects and even tiny lizards. But DNA? Nope. A team of researchers tried to extract DNA from a couple of bees caught in tree resin that wasn't even hardened into amber yet — and they couldn't do it. It turns out that amber (and resins in general) aren't great at preserving DNA.

But that isn't the biggest problem.  As soon as something dies, its DNA begins to decay. Water, sunlight, microbes in soil, even other gunk in the creature's own body, all cause chemical reactions that mess up the DNA. "All of these things will break down the DNA into smaller and more degraded pieces until,

eventually, there is nothing left," biologist Beth Shapiro, an expert on ancient DNA, told Live Science. It takes a long time for DNA to degrade completely. Scientists think DNA can last 1.2 million years, maybe even 3 million (some say 6 million) under certain conditions. They've identified DNA from a 70,000-year-old Neanderthal fossil, a 700,000-year-old ancient horse bone, and even a one million-year-old woolly mammoth tooth. But a dinosaur from 65 million to 245 million years ago?

Researchers recently discovered something that looks kind of like DNA in a really well-preserved 125 million year-old fossil of a peacock-sized dinosaur called Caudipteryx and in a 76 million-year-old duck-billed dinosaur called Hypacrosaurus. But they have no idea if it's really from the dinosaurs; it could be from a microbe or something like a worm that crawled by more recently. And even if it really is dinosaur DNA, it may be seriously messed up. So a real-life Jurassic Park may not be possible (sorry, dino fans). But Woolly Mammoth Park? Maybe! Woolly mammoths — the shaggy, long-tusked relatives of today's elephants and the best-known of all the mammoths — first appeared about 300,000 years ago during the Pleistocene epoch, which included the Ice Age. That means their DNA is not anywhere near as old as dino DNA. And, yes, scientists have successfully extracted DNA fragments from the teeth of multiple mammoths, which lived in a frigid area that is now Siberia. Some of the DNA, from an ancestor of the woolly mammoth, was 1.1 million to 1.2 million years old! The cold environment of northern Siberia, where there are large areas of permafrost (permanently frozen ground), helped preserve the mammoth DNA. The mammoth DNA survived because it was more deep-frozen than fossilized, the science and tech website Gizmodo reported. Teams of scientists from nine countries pieced together the mammoth DNA fragments to learn about mammoths and how they evolved. Now a group of scientists wants to see herds of woolly mammoths wandering across the Arctic tundra again.

They are working on bringing them back — a process they call "de-extinction." They plan to insert traits from a woolly mammoth into the DNA of an Asian elephant, the mammoth's closest living relative. They'd pick the most mammoth-like traits, like its shaggy coat and ability to withstand the cold. Then they would clone the animals. To be honest, it wouldn't create a true woolly mammoth, but more of a hybrid woolly mammoth-Asian elephant or a "mammophant." But, if everything goes according to plan, the animal will look and
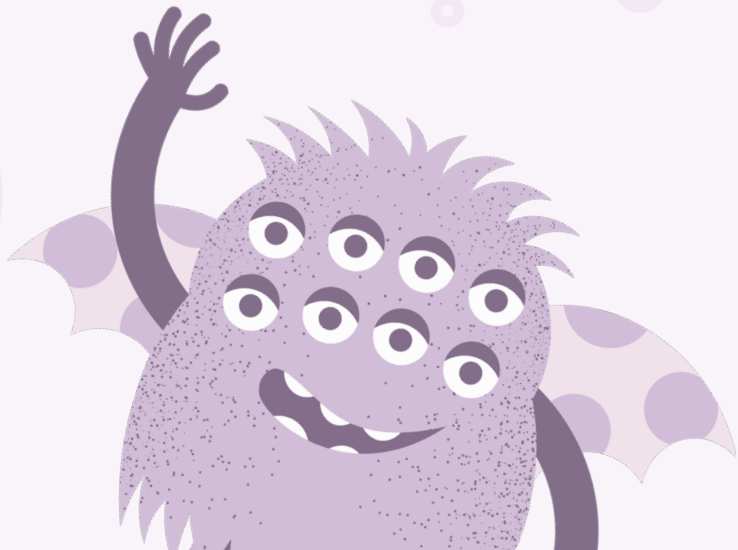
act like a woolly mammoth. Just like in the Jurassic Park movies, not everyone is enthusiastic about the idea of bringing extinct animals back to life. Even if scientists can bring back woolly mammoths, should they? The idea raises a lot of questions about right and wrong. What if the environment has changed too much for woolly mammoths to thrive now? What if the plants they used to eat no longer exist? Or what if the elephants who would raise the first mammophants don't accept them? And then there's the question of people. Many more people live in the Arctic now than when woolly mammoths roamed the earth. Other scientists think it would be better to use the process to keep currently endangered animals from going extinct. Scientists could insert traits into animals to make them healthier or to help them adapt faster to climate change, which threatens the habitats of many animals. The scientists working to de-extinct woolly mammoths point out that the animals could help restore aspects of the tundra ecosystem that have suffered since the animals went extinct. Eventually, the scientists would like to see herds of woolly mammophants wandering freely through the tundra. But the first few would be safeguarded in a nature reserve in Siberia. And what would they call this reserve? Pleistocene Park!

## SU'AALAHA FAHAMKA KU SAABSAN

Waa in ay ka jawaabaan su'aalaha soo socda, ayaga oo isticmaalaya xigashooyin iyo macluumaad ka imaanaya qoraalka si ay jawaabahooda ugu xoojiyaan

1. Maxay tahay sababta aysan saynasyahanadu u heli karin hiide sidaha dinosaur-ka?

2. Maxay tahay sababta aysan nolol dhab ahi suurtagal uga ahayn Jurassic Park?

3. Sidee ayay saynisyahanadu u maleynayaan in ay dib ugu soo celin karaan maroodigii dhogorta lahaa?

4. Qoraagu wuxuu sharaxayaa qaabka teknoolojiyadda loogu isticmaali karo in xayawaanka laga ilaaliyo in ay dabar go'aan. Waa maxay faa'iidooyinka iyo welwelka ku saabsan soo noolaynta xayawaanada sida dinosaur-ka ama maroodiga dhogorta leh?

Hoos waxaad ka helaysaa tusaale ku saabsan qoraal heerka fasalka 8aad ah.[2] Ardayga waxaa la weydiiyay "Sidee ayuu unug ugu ekaan karaa dhisme ama magaalo?" Ardaygu wuxuu uga jawaabay asaga oo la barbardhigaya unugga Buurta Olympus wuxuuna qoray sidii asaga oo ah sanamka Giriiga.

### How Mount Olympus is Like a Cell

Have you ever looked at your own cells? No, of course not. You're a mortal and you don't have the power or technology to do that. Maybe some day in the future we shall grant humans the power of microscopic vision. Who knows? That's up to Zeus. Cells are amazing things. Each one is individually different. When I first looked at my own cells I thought, "WOW there is nothing like this in the whole world." I was wrong. Recently, I came to the realization that my own dear Mount Olympus is very much like a cell itself. There are many components in a cells that can also, in a way, be found on Mount Olympus. The structure of a cell and the components within are very like Mount Olympus.

What? You don't believe me? Well fine! Come on. I'll show you.

Oh, and by the way my name is Eos and I'm the Greek goddess of dawn. I'm responsible for the rising of the sun. Be careful and follow me. Don't let anyone else see you. Mortals aren't allowed up her. Let's go.

   In an animal cell, the cell membrane controls what enters and leaves the cell. There are small pores that allow things of different sizes through. Up her, on Olympus what keeps the mortals from entering. or leaving (if they are to be kept here) is an instilled fear of us. Mortals dare not enter unless told to by one of the gods or goddesses. They dare not leave either.

   Now, all of you stand still. No, it's okay. This is just a powder that will make you invisible. Nobody move or make a sound. Got it? If you do, it will be your life

**Wuxuu kula wadaagayaa fikradda guud ee qoraalka si cad, asaga oo akhristaha tusaya waxa soo socda**

**Wuxuu diyaariyaa afkaarta oo qaab cad – booqasho lagu tagayo Buurta Olympus – si loo muujiyo qaabka qaybaha unuga ugu egyahay qaybaha kala duwan ee Buurta Olympus**

**Wuxuu isticmaalaa ereyo gaar ah iyo kuwo khuseeya si uu u sharraxo mowduuca**

wasted. I just have to check to make sure that neither Zeus or Hera are in their throne room...Okay, we can go in. Just go silently and quickly! This is Zeus and Hera's throne room, which is very similar to the nucleus of a cell. In a cell, the nucleus is the control center of activity on a cellular level. It's from here that Zeus and Hera control the happenings of immortals and mortals alike. It's like the control center for the world.

Holy Zeus! Someone's coming in. It's Zeus himself! Quick into here. No noise, no movement, no nothing! Those of you who can peer through the window, do so. You'll be able to see the head god himself! Zeus and his wife, Hera, control the gods, goddesses, and mortals. They are like the chromosomes in a cell. In a cell, the chromosomes determine what kind of cell it will be and how it acts. That is what Zeus and Hera do in the world.

In a cell, the ribosomes turn amino acids into proteins. On Mount Olympus we make many things like laws, rules, and the weather. However, the most material thing that we make are lightning bolts. Of course, only Zeus can actually make them. Although others can use them if they have his permission. See how Zeus only uses his left hand for tasks? That is because his right hand is used to make lightening. Like the ribosomes, his hand takes raw materials (the abundant plasma and energy up here) and creates a whole new product (lightning.) His hand is like a the ribosomes in a cell.

Good, Zeus is leaving. This closet is starting to get stuffy. We should go quickly out into the hall. Now take a right, then a left into here. This is the courtyard. Immortals don't have to eat, but we do it for the pleasure of it. Also, eating helps keep us healthy and happy. The fountains flow with sweet juices and wines. The trees have the best fruits possible. That table over there is always supplied with the most delectable food imaginable.  Those

chests that are spread around are filled with gold and jewels for our taking. Wearing these helps enhance our godly image. This courtyard represents the vacuoles in a cell. In the vacuoles, large amounts of what the cell needs are stored. Here large amounts of what immortals thrive on is stored.

Don't be alarmed. Those are our mortal slaves. They won't tell on us because I have ordered them not to. In an animal cell, mitochondria store energy and release it when necessary. They power the cell. Here on Mount Olympus, we could not get by with out thee slaves. They perform almost every task that can even slight be considered laborious. The energy they get from food is stored in their bodies and released in order to do tasks.

In a cell, the ER, or endoplasmic reticulum, help to move substances around the cell. The halls and paths we've been following are very similar to the ER, they are like the roads that contain all movement.

Quick, into this room here. That was Hermes the messenger god. Now that I think of it, he is very much like the golgi bodies in a cell. The golgi bodies package and ship substances from place to place in a cell. Hermes, similarly wraps items up in goat skin and takes them from one person, immortal, or Titan to another.

Now, let's go back to the entrance. You should go. Soon every god, goddess, demi-god, and demi-goddess will be coming. There is a big meeting tonight. So they were all summoned here. By now, I'm sure you can see how Mount Olympus is structured like a cell. Just follow that path down there until you get home. Wait, the day is almost over and it'll get dark. Each of you swallow some of this powder. There, this enables you to fly, which is much faster than walking. If you promise not to tell anyone about this and you can go. You swear? Okay, good bye.

Wuxuu bixinayaa gunaanad kaasoo la xiriira qodobka ugu weyn ee qoraalka

## HOWLAHA MAALINLAHA AH EE LAGU TAAGEERAYO WAXBARASHADA

🌟 *Haddii ardaygaaga fasalka 8aad uu sheegi waayo ereyada, ama haddii uu ku istaago marka uu akhrinayo, kala hadal macalinkiisa akhriska faseexiisa. Sidoo kale, canuggaagu haku tababarto akhrinta qoraalada yaryar si uu usoo wanaagsanaado, sida gabay-yada iyo sheekooyinka gaagaaban*
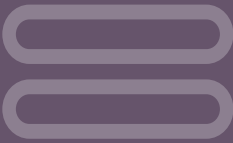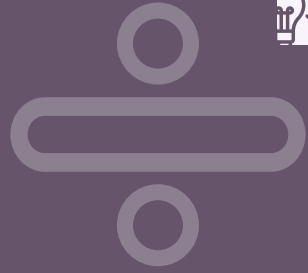
- U sheeg ardaygaaga fasalka 8aad in uu doorto buugga uu doonayo in uu iskiis u akhristo maalin walba. In uu buugaag badan in muddo ah ku akhriyo waa muhiim. U ogolow canuggaaga in uu doorto, si uu ugu faraxsanaado wax akhriska

- Taga maktabadda Ismaamulka Hennepin mar kasta - waa bilaash! Qof kasta waxa uu heli karaa kaarka maktabadda, ayada oo aan loo eegayn marxaladdiisa soogalootinimo

- Doorta mowduuc aad isla barataan. Akhriya buugaag, eega waxyaabaha intarneetka kujira, ama isla sameeya hawlo gaagaaban oo cilmibaaris ah. Weydii waxa uu ku bartay akhriskiisa. Hakula wadaago adiga, saaxiibada, ama xubnaha kale ee qoyska

- U sheeg canuggaaga in uu ku tababarto qoraalkiisa. Wuxuu haysan karaa joornaal, wuxuu qori karaa waraaqo ama iimaylo, ama wuxuu qaadan karaa xusuus qoraalo ku saabsan waxa uu baranayo

- Isla dhagaysta warbixinada kana sheekaysta ama wax ka qora waxa aad barateen

- Tus ardaygaaga fasalka 8aad qaabka uu u isticmaali karo waxa uu dugsiga ku barto nolosha danbe

  - Weydii saaxiibada iyo qoyska in ay ardaygaaga fasalka 8aad tusaan qaabka uu u isticmaali karo waxyaabaha uu ku bartay dugsiga

  - Tag fasalka wax qorista ee xarunta bulshada

  - U sheeg canuggaaga in uu si mutadawacnimo ah u tago dhacdooyinka iyo howlaha bulshada

- Kala hadal koleejka ardaygaaga fasalka 8aad. Fiiri waxa aad u baahan tahay in aad adeegsato si aad koleejka u tagto. Tus ardaygaaga dugsiga dhexe sida waxbarashada uu hadda qaadanayo ay ugu diyaarinayso dugsiga sare iyo koleejka

- Sii canuggaaga shaqooyin todobaadle ah oo ka dhigaya in uu wax akhriyo sida cunto karinta, dukaamaysiga, iyo diyaarinta iimaylada

- Samee jadwal guriga ah kuna dhaqan. Xaqiiji in canuggaagu maalin walba dhammeeyo layliga guriga

# SOO JEEDIN

1. Ma i tusi kartaa natiijooyinka qiimayntii ugu danbaysay ee wax akhriska canuggayga?

2. Muxuu ardaygayga fasalka 8aad dhigto uu ku wanaagsan yahay, sideese ugu isticmaali karaa xirfadahaan fasalka dhexdiisa?

3. Qaabkee u dooranaysaa waxa fasalku akhrinayo? Ardaygayga fasalka 8aad ma arki doonaa wajiyada iyo goobaha uu buugaagta ku bartay? Muu ka baran doonaa dad iyo goobo cusub?

4. Maxay ardayda fasalka 8aad baranayaan marka ay wax akhrinayaan? Muxuu ardaygayga fasalka 8aad uu awood u yeelan doonaa in uu fahmo kana hadlo ayada oo lagu salaynayo waxa uu ahriyay? Waa maxay mowduucyada uu ka akhriyo taariikhda iyo sayniska?

5. Ardaygayga fasalka 8aad ah isagu ma doortaa in uu akhristo buugaagta uu isagu danaynayo? Kaliya ma waxaa loo ogolyahay inuu akhriyo buugaagta aad adigu u doortay? Ma waxaa kaliya loo ogolyahay in uu doorto buugaagta leh heer akhris oo cayiman? Muu awoodaa in uu akhriyo waxyaabaha ka caawinaya fasalka uuna xiisaynayo?

6. Ardaygayga fasalka 8aad ah muu awoodaa in uu wax u qoro qaab ku tusaya in uu yaqaano waxa uu akhrinayo iyo waxa uu baranayo? Ma uu adeegsadaa tusaalooyinka qoraalka iyo tafaasiil ku filan? Ma uu adeegsada hikaadda, naxwaha, iyo xarakaynta saxda ah? Haddii uusan adeegsan, sideen u caawin karaa?

7. Ilaa intee ayuu canuggaygu wax qoraa halkii xiisad ee fasalba? Sidee ayuu jawaab kusoo celiyaa muraajicaynna loogu sameeyaa wixii uu qoray?

8. Ma haysaan wax tusaalooyin ah oo qoraalka canuggayga ah? Canuggaygu majiraan waxyaabo uu qoray?

9. Ardaygayga fasalka 8aad ma awoodi karaa in uu ku hadlo waxna dhegaysto fasalka dhexdiisa taasoo muujinaysa in uu fahmayo waxa uu baranayo? Miyuu adeegsadaa caddayn ka socota qoraalka, jawaabihiisa ma usoobandhigaa si faahfaahsan, mana u hadlaa qaab qotodheer si uu u muujiyo in uu wax fahmayo? Haddii aysan sidaa ahayn, waa maxay caqabadaha uu wajahayo?

10. Maxaan samayn karaa si aan u taageero ardaygayga fasalka 8aad ah fasalka dhexdiisa? Qaabkee ayuu u dhisi karaa xiriir xooggan oo uu kula yeesho una qaadan karaa mas'uuliyadda waxbarashada?

# Xisaabta

**WAXA LOO BAAHNA YAHAY IN CANUGGAAGU UU OGAADO AWOODNA U YEESHO IN UU SAMEEYO**

Fasalka 8aad, ardaydu waxay diiradda saaraan xallinta mas'alooyinka leh fansaarka iyo isle'egyada toosan. Ardaydu waa in ay isla shaqeeyaan xiliga fasalka, ka wada hadlaan qaabka ay u xalinayaan mas'alooyinka, oo midkood kan kale wax ka barto. Waa in ay adeegsadaan teknoolojiyad si ay u eegaan garaafna ugu sameeyaan isle'egyada iyo xogta. Ardayda fasalka 8aad waa in ay sameeyaan dood xisaabeed iskuguna dayaan qaabab kala duwan si ay mas'alooyinka u xaliyaan. Waa in ay xaliyaan labadaba mas'alooyinka kuwa tirada ah iyo kuwa ereyada ahba, oo ay kujiraan mas'alooyinka dhabta ah ee dunida laga adeegsado. Ugu danbayntii, waa in ay qiyaasaan xalalka kahor inta aysan xallin ogaadaanna in qiyaastoodu tahay mid maangal ah iyo in kale.

Ardayda fasalka 8aad waxay wakhtigooda inta ugu badan ku bixin doonaan barashada mawduucyada soo socda. Waa in ay si wanaagsan u fahmaan marka la gaaro dhammaadka sannadka.

Si aad u aragto dhammaan heerarka xisaabta gobolka ee fasalka 8ka fiiri halkan: **education.mn.gov/MDE/dse/stds/Math**

# BARASHADA XISAABTA FASALKA 8AAD

☑ In ay qeexaan qiimaha tirooyinka aan ahayn **lakab** ayaga oo adeegsanaya tirooyinka lakabka ah

> **$\sqrt{7}$ ma ahan tiro lakab ah sababtoo ah jajab uma taagnaan karo. Qiimaha $\sqrt{7}$ wuxuu u dhexeeyaa 2.6 iyo 2.7**



☑ Waxay xaliyaan su'aalaha leh **ku jibaaraneyaasha** adag oo ay kujiraan kujibaaraneyaal ah tirooyin taban iyo jajabyo

☑ Waxay adeegsanayaan astaamaha kujibaaraneyaasha tirooyinka ah si ay usoo saaraan **tibix lamid ah**. Waxay adeegsadaan **xidid laba jibaaraneyaasha** si ay u muujiyaan xalka isle'egyada
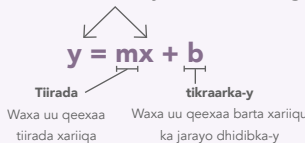
$$27^{⅔} = \sqrt[3]{27^2} = \sqrt[3]{729} = 9$$

☑ Waxay qoraan tirooyinka waaweyn iyo kuwa yaryar ayaga oo isticmaalaya qormo saynis; waxay tirooyinka isugu dhufanayaan isuguna qaybinayaan qaab **qormo saynis** ah

$$86{,}000 \rightarrow 8.6 \times 10^4$$
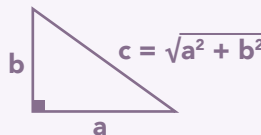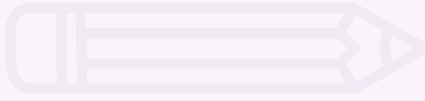$$4.2 \times 10^{-4} \rightarrow 0.00042$$

☑ Waxay xalinayaan mas'alooyinka wata **isle'egta toosan** oo wadata hal doorsoome iyo nidaamyo isle'egyo toosan ah. Waxay ku muujiyaan garaafna ka sameeyaan xiriirka ka dhexeeya dunida dhabta ah iyo mas'alooyinka xisaabta ayaga oo isticmaalaya isle'egyada toosan

☑ Waxay isticmaalaan isle'egyada toosan si ay u muujiyaan xaaladaha **saamigalka** ah. In ay helaan **tiirada** iyo **tikraarka-y**



$$y = mx + b$$

**Tiirada**
Waxa uu qeexaa tiirada xariiqa

**tikraarka-y**
Waxa uu qeexaa barta xariiqu ka jarayo dhidibka-y

☑ Waxa ay si dhow ula socdaan noocayada iyo xiriirka xogta ku lugta leh laba doorsoome. Waxay isticmaalaan **fansaarada** si ay u qaabeeyaan xiriirada ka dhexeeya laba doorsoome. Waxay abuuraan ayna tarjumaan fansaarka toosan kuwaas oo wata shaxda, garaafyada, iyo isle'gyada

☑ Waxay sababeeyaan ayna adeegsadaan **Aragtiinka Baysogras** si ay u xaliyaan mas'alooyinka

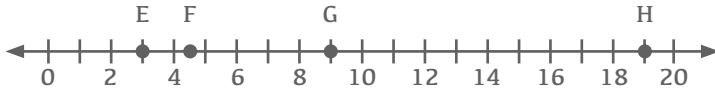Marka la eego xagal qumman (oo ah saddex xagal leh 90° digrii), **a² + b² = c²**



$$c = \sqrt{a^2 + b^2}$$

Hoos waxaa kujira tusaalooyinka su'aalaha xisaabta ee heerka fasalka 8aad.[3]

1. **Waxyaabaha soo socda keebaa ah tibix lakab ah?**

   a) $4\sqrt{18}$       d) $4 + \sqrt{16}$

   b) $\sqrt{16} + \sqrt{25}$       e) $10\sqrt{9}$

   c) $12\sqrt{4}$       f) $3 + \sqrt{15}$

2. **Afar barood ayaa lagu muujiyay xarriiq tiro, bartee u taagan $\sqrt{9}$?**



3. **Fududee tibxaha soo socda:**

   $10y^8 \cdot 2y^2 =$          $\dfrac{4x^3}{3x^6} =$

   $\dfrac{x^{20}}{x^5} =$          $\dfrac{2x^2 \cdot 3x^3}{2x^5} =$

4. **Wadarta guud ee qiyaasta bedka dhulka Shiinuhu waa $9.326 \times 10^6$ kiiloomitir oo laba jibbaaran. U qor bedka dhulka Shiinaha hab beegal.**
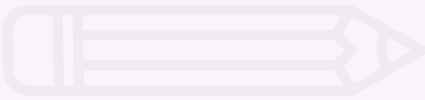
5. **Miisaanka xabad siigo ah ayaa ah $0.000000000753$ kiilogaraam. Waa maxay tiradu marka loo qoro hab qormo sayniseed?**

6. **Kee ayaan u taagnayn fansaar aan xarriiq toosan ahayn?**
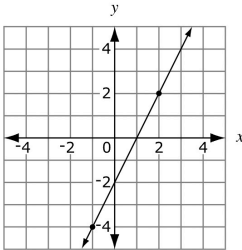
   a) $\dfrac{1}{2}x + y = 11$       c) $xy = \dfrac{1}{2}$

   b) $x - y = 1$       d) $x = \dfrac{1}{2}y$

7. **Wadarta kharashka buug kujira qaybta, c, waxay ku xiran tahay tirada buugaagta ee kujirta qaybta, b. Qor isle'eg muujinaysa in kharashku yahay fansaarka tirada buugaagta.**
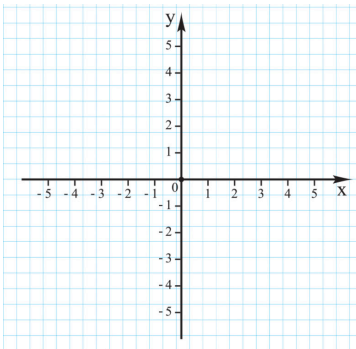
8.  **Garaafka xariiq ayaa hoos lagu muujiyay.  Waa maxay tiirada xar**



9.  **Garaaf u samee xariiqa maraya baraha (1, 2) tiiradiisuna tahay (-**



10.   **Waa maxay qiimaha 4j−|j−6|marka j=−3?**

11.   **Kooxda baambayda dugsigu waxay iibinayaan xirmooyin nacna ah si ay lacag ugu helaan safar ku kici doona $1,625. Xirmo ka oo nacnac ah oo ay iibiyaan waxay ka helayaan $0.75. Waxay mar horeba heleen $967. Qor isle'eg loo isticmaali karo in lagu helo tirada xirmooyinka nacnaca ah, n, ee ay ku khasbanyihiin in ay iibiyaan si ay u helaan lacagta safarka ee soo hartay.**

12.   **Baraha Q(2, 2), R(4, 4), iyo S(8, 4) waa geesaha barbaroole QRST. Waa maxay isle'egta xariiqa kujira ST?**

13.   **Garaaf ku samee xalka adiga oo adeegsanaya −4x+3>21 ee xarriiqa tiro ee hoose.**

⭐ *Kala hadal ardaygaaga fasalka 8aad xisaabta uu samayn karo. Waa maxay waxyaabaha cusub ee uu baranayo? Wax dhibaato ah miyuu ku qabaa? Ma caawin kartaa adigu?*

- Marka ardaygaaga fasalka 8aad uu u baahdo in laga caawiyo layliga, weydii su'aalaha ka caawinaya in uu barto qaabka loo xaliyo mas'alada. Adigu ha uga shaqayn mas'alada

- Ka caawi ardaygaaga fasalka 8aad helitaanka waxyaabaha ka caawin kara waxbarashada. U sheeg ardaygaaga in uu kala hadlo macalimiintiisa waxyaabaha caawin kara, sida in uu ku tababarto shaqooyinka, kuwo dheeraad ah, ama ilo kale

- Canuggaagu haka hadlo waxyaabaha ay baranayaan iyo halka ay waxyaabaha ku arkaan ee dunida ku wareegsan. Tusaale ahaan, halkee ayay ku arkaan tirooyinka taban ee kabaxsan fasalka xisaabta?

- U kaxee canuggaaga dukaamaysiga. Weydii in uu isbarbardhig ku sameeyo qiimeyaasha si uu u helo iibka ugu wanaagsan. Weydii in uu qiyaaso canshuurta

- Wax ka weydii ardaygaaga fasalka 8aad mas'alooyinka xisaabta ah ee uu doonayo in uu xaliyo. Miyuu u isticmaali karaa xisaabtaan shaqadiisa marka uu weynaado?

- Weydii ardaygaaga fasalka 8aad in uu sameeyo cilmibaaris xog xisaabeed ah oo ku saabsan qaybaha uu danaynayo. Tusaale ahaan, u sheeg in uu soosaaro 30ka heesood ee ugu badan ee uu dhagaystay bishaan. Hel faraqa, celceliska, iyo badi-dhecaha ugu badan ee uu dhagaysto ee heesaha

- Tus meelaha aad xisaabta u isticmaasho noloshaada maalinlaha ah
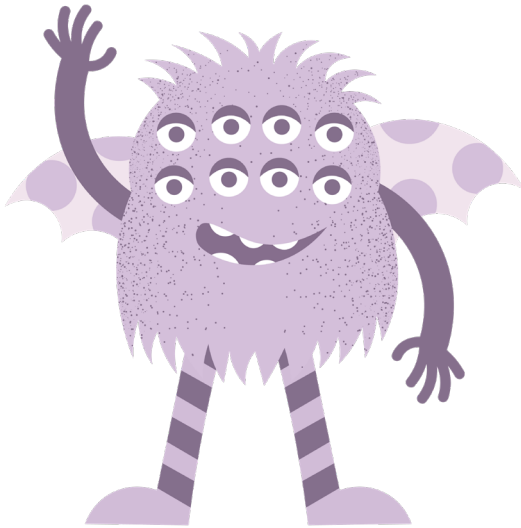
**FURAHA JAWAABTA**
**1:** $4\sqrt{18}$ and $3 + \sqrt{15}$; **2:** E; **3:** $20y^{10}$; $4/3x^3$; $x^{15}$; 3; **4:** 9,326,000 kiiloomitir oo iskuwareeg ah; **5:** $7.53 \times 10^{-10}$ kilograms; **6:** c) $xy = \frac{1}{2}$; **7:** c = f(b); **8:** 2; **9:** Waa inay ku sawiraan layn isku xidhaya nambarka 6 dhidibka y ( dhidibka toosan ) iyo 7 xagga dhidibka x (dhidibka jiifka); **10:** -21; **11:** $0.75n = \$658$; **12:** $y = x - 4$; **13:** x wuu ka yar yahay ama la siman yahay -4

## XEELADAHA LAGULA HADLO MACALINKA

1. Ma i tusi kartaa imtixaankii xisaabeed ee ugu danbeeyay ee canuggayga?

2. Waa maxay mowduucyada ugu muhiimsan ee ay ardayda fasalka 8aad ka bartaan xisaabta? Canuggaygu ma fahmayaa ashyaada? Ma la wadaagi kartaa tusaalooyin gaar ah?

3. Qaabkee canuggaygu u wajahaa shaqooyinka xisaabta ee adag? Sidee ayaan u caawin karaa marka uu wajahayo mas'alooyin adag?

4. Waa maxay waxyaabaha loo baahan yahay in canuggaygu fahmo kana hadlo ee waxyaabihii uu bartay?

5. Canuggaygu ma i tusi karaa in uu fahmay waxa uu bartay? Haddii aysan sidaa ahayn, maxaa caqabad ku ah? Sidee ayaan u caawin karaa?

6. Qaabkee ayaan ku taageeri karaa kuna dhiirigalin karaa ardaygayga fasalka 8aad si uu waxbarashadiisa u maamusho?

# Erey bixinada ereyada waxbarashada

Macalimiintu waxay adeegsadaan ereyo micno gaar ah leh marka ay dugsiyada joogaan. In aad ereyadaas fahamto waxay kaa caawinaysaa in aad macalinka canuggaaga la hadasho.

## RAADADKA DHIJITAALKA AH

Macluumaadka ku saabsan qof kujira internetka oo ay sabab u tahay hawshiisa onlaynka. Arrintaan waxaa kamid ah baraha bulshada, sawiraanta, iibka onlaynka ah iyo dib u eegisyada, lambar sireedyada, iyo rukumashada, iyo noocyada kale.

## ISLE'EG

Waa jumlad laba shay isle'egyihiin. Isle'egtu waxay inta badan leedahay laba tiro oo aan la garanayn (kuwaas oo loo yaqaano doorsoomeyaal) waxaana loo muujiyaa xaraf ahaan. Tusaale ahaan: **3b + 5 = 14**

## KU JIBAARANE

Kujibaarane waxaa loola jeedaa inta jeer ee tirada asalka ah la isku dhufanayo.

## TIBIX

$$\text{Salka} - 7^3 \overset{\text{Ku jibaarane}}{=} 7 \times 7 \times 7$$

Tirooyinka, calaamadaha, iyo shaqooyinka (sida + iyo ) la isu keeno kuwaas oo muujinaya qiimaha shay. Tusaale ahaan, **y + 4** waa tibix, sidoo kale **3 − x/₂** iyaduna waa tibix.

## LUUQADDA SHARRAXAADA

Luuqadda sharraxaada waxay isticmaashaa qaybaha hadalka si ay u noqoto mid xiiso leh, waxtar leh, saamaynna leh. Tusaale ahaan: "Dhogorta eygaygu waxay u madowdahay sidii dhuxushii." "Waxay dareemaysaa buluug.""Wuxuu ku dagaalamay awood libaax." Ardayda fasalka 8aad waa in ay isticmaalaan mowduuca si loo helo micnaha luuqadda sharraxaada ayna ogaadaan in uu ka duwan tahay micnaha dhabta ah ee ereyada.

## FANSAAR

Waa tibix qeexaysa xiriirka ka dhexeeya hal doorsoome (doorsoome madax banaan) iyo doorsoome kale (doorsoome madax banaan). Haddii fansaarku yahay mid xarriiq toos ah, kaddibna marka garaaf lagu sameeyo salaxa baraha kulanka, waxay abuuri doontaa xarriiq toos ah oo leh tiiro ma doorsoome ah.

## LEXILE

Waa hannaan heer u samayn oo caan ah oo ay adeegsadaan ardayda, macalimiinta, iyo waalidiinta si loo muujiyo laba shay:
1) Heerka wax akhriska ardayga 2) Adaygga qoraalka
Waxaad ka heli kartaa tirada Lexile qaybta danbe ee buugga ama adiga oo ciwaanka ka raadinaya www.lexile.com. Heerarka lexile ee fasalka ku haboon: Fasalka 6-8 heerka 925–1185

## ISLE'GTA XARRIIQA TOOSAN

Waa isle'eg u dhexeeya laba doorsoome oo samaynaya xarriiq toos ah marka lagu sawiro garaaf

| Isle'gta Xarriiqa toosan | Hannaanka Isle'egta Xarriiqa toosan ah |
|---|---|
| Waxaad baaskiil kusoo kiraysatay $10 saacadda 1aad ee ugu horreysa, saacad kasta oo dheeraad ahna waa $5.50. Waa maxay qiimaha (y) ee kiraysiga baaskiilka muddo 6 saacadood ah?" | Waxaad ka shaqaynaysaa qaybta wax laga iibsado ee cayaarta kubada basketball-ka. Waxaad iibinaysaa doolshaha kulul iyo jibsi. Doolsho kasta wuxuu ku kacayaa $1.50 bac kasta oo jibsi ahna qiimaheedu waa $0.50. Ugu danbayn habeenkaas waxaad samaysay lacag wadar ahaan dhan $78.50. Waxaad iibisay wadar ahaan 87 doolshe iyo jibsi isugu jira. Imisa doolshe ayaad iibisay imisa jibsi ayaase la iibiyay? |
| Kasoo qaad y = kharashka guud<br>Kasoo qaad x = tirada saacadaha<br><br>$y = 10 + (x-1)5.50$ | Kasoo qaad x = tirada doolshaha la iibiyay<br>Kasoo qaad y = tirada jibsida la iibiyay<br><br>$1.50x + 0.50y = 78.50$   (Isle'egta khusaysa kharashka)<br>$x + y = 87$   (Isle'egta la xriirta wadarta la iibiyay) |

## SI KALE U QOR ISLA MICNAHA

Adiga oo ereyadaada ku beddelaya jumlada ama baaragaraafka.

## QISH

Sheegashada shaqada qof kale ama fikraddiisa in aad adigu leedahay.
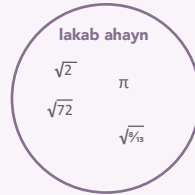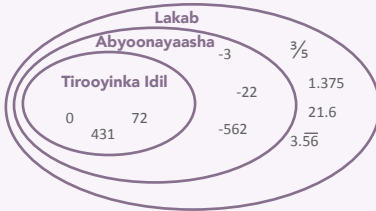
## XIRIIRKA SAAMIGALKA AH

Waa xiriir u dhexeeya laba caddad oo kala duwan kaasoo hal caddad uu yahay ma doorsoome kasoo tarmay caddad kale. Tusaale ahaan, quraanjo kasta waxay leedahay 6 lugood, sidaa darteed buulka quraanjada, wadarta tirada luguhu waxay lix jeer ka badan tahay tirada quraanjada. Sidaa darteed, tirada luguhu waxay saamigal ku tahay tirada quraanjada.

## TIROOYINKA LAKABKA AH

Tirada lakabka ah waa tirada lagu muujin karo in uu yahay jajabka laba lambar. Tirada aan lakabka ahayn laguma muujin karo jajab ahaan. Jajab tobanluhu ma ahan tiro lakab ah haddii uusan waligiis dhammaanayn uusanna lahayn qaab soo noqonoqanaya.

Lakab
Abyoonayaasha -3    ⅗
Tirooyinka Idil
0    72    -22    1.375
431    -562    21.6
3.56

lakab ahayn
$\sqrt{2}$    π
$\sqrt{72}$
$\sqrt{9/13}$

## HEERKA AKHRISKA

Macalimiintu waxay inta badan cabiraan heerka akhriska ardayga, kaasoo inta badan lagu calaamadeeyo xaraf ama tiro. Arrintaani waxay macalimiinta ka caawinaysaa in ay ogaadaan waxa ardaydu u baahan yihiin in ay bartaan. Laakiin mararka qaarkood, carruurta waxaa kaliya oo loo oggol yahay in ay akhriyaan qoraalada heerkooda ah. Ka digtoonow dhaqankan. Carruurtu waa in aysan ku koobnaan kaliya akhriska qoraalada heerkooda ah ama ka hooseeya.
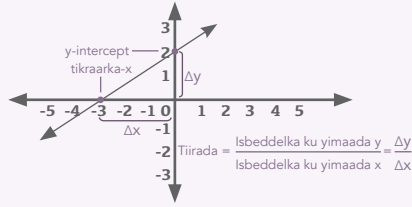
**TIXRAACYADA**

Minnesota Department of Education Academic Standards **https://education.mn.gov/mde/dse/stds/**

Seek Common Ground Family Guides **https://seekcommonground.org/family-guides**

Math Milestone Grade Level Grids **https://www.mathmilestones.org/gradelevel-grids**

## TIIRADA

Tiirada xariiqu waxay qeexaysaa jahada iyo dheerarka taagan ee xariiqa. Waxaa lagu helaa ayada oo isbeddelka ku yimaada y loo qaybinayo isbeddelka ku yimaada x inta u dhexaysa laba barood oo garaaf dushiisa ah.



$$\text{Tiirada} = \frac{\text{Isbeddelka ku yimaada y}}{\text{Isbeddelka ku yimaada x}} = \frac{\Delta y}{\Delta x}$$

## XIDID LABA JIBBAAR

Xididka laba jibbaaran waa isirka tiro taasoo, markii isla ayada la isku dhufto keenaysa tiradii hore. Tusaale ahaan, 5 iyo –5 labaduba waa xidid laba jibaaranaha 25.

## QORMO SAYNIS

Qormo saynis waa qaab loo muujinaya tirooyinka aadka u weyn ama aadka u yar in si fudud loo qoro. Tusaale ahaan tirada 0.0000000000073 waxaa si fudud loogu qori karaa **$7.3 \times 10^{-12}$**

## ADAYGGA QORAALKA

Waa cabbirka ilaa heerka qoraalku adag yahay. Adaygga qoraalka waxaa lagu saleeyaa qodobo badan. Qaabka iyo xulashada ereyada ayaa adayg badan keeni kara. Qoraalku wuxuu noqonayaa mid aad u adag haddii akhristeyaashu u baahan yihiin aqoon dheeraad ah si ay u fahmaan micnaha, ama haddii qoraalku leeyahay micno adag.

## JUMLAD SOO KOOBID AH

Jumlad soo koobid ah waa hal ama laba jumladood oo soo koobaya fikradda guud ee qoraalka.

## DOORSOOME

Doorsoomuhu wuxuu u tagaan yahay qiimo tiro aan la aqoon oo kujira isle'eg ama tibix xisaab ah. Doorsoomeyaasha waxaa lagu muujiyaa calaamado (sida caadiga ah xaraf

**2x + 1 = 9**
|
doorsoome

## TIKRAARKA-Y

Tikraarka-y waa barta garaafka xarriiqu ka goynayo dhidibka-y. Waxaad tusaale kan ah ku arki kartaa qeexitaanka tiirada.

# QORAALO

# QORAALO