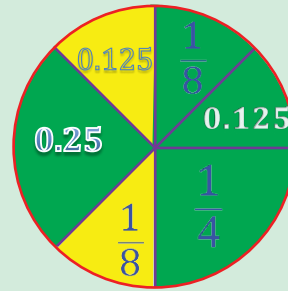


# CUTUBKA 3aad



## JAJABYO IYO JAJAB TOBANLEYAAL

### Maxsuulka Cutubka:

*Cutubkan dabadii, ardaydu waxay awoodi doontaa;*

- fahamka jajabyada iyo jajab-tobanleyaasha iyo rumeynta in ay yihiin laba hab oo loo muujiyo tirooyin isku mid ah
- kobcinta xirfaddahooda ku saabsan isbarbardhigidda horsanaanta, isugeynta, kalagoynta.
- iskudhufashada iyo isuqaybinta jajabyada iyo jajab tobanleyaasha
- ka shaqaynta masalooyinka iyo weedh-xisaabeedyada ku saabsan jajabyada iyo jajab-tobanleyaasha.

### Tusmooyinka ugu muhiimsan:

**3.1 Fududaynta Jajabyada**

**3.2 Isku beddelidda jajabyada, jajab-tobanleyaasha iyo Boqollayda**

**3.3 Is-garab-dhigga iyo hormaynta jajabyada**

**3.4 Isu-gaynta iyo kala goynta jajabyada iyo jajab-tobanleyaasha**

**3.5 Isku-dhufashada iyo isu-qaybinta jajabyada iyo jajab-tobanleyaasha.**

Hubin

Soo koobid

Layliska nakhtiinka ah

## HORDHAC

Fasaladiinii 4<sup>aad</sup> iyo 5<sup>aad</sup>, waxaad ku soo barateen jaadadka kala duwan ee jajabyada, hormaynta (tixbiidda) iyo is-garab-dhigga jajabyada, waxaa kale oo aad ku soo barateen ka shaqaynta jajabyada iyo jajab-tabanleyaasha.

### Cutubkani waxaad ku baran doontaan

- ♦ Sida loo fududeeyo jajabyada iyada oo la adeegsanayo qaybiyaha ugu weyn ee ay wadaagaan (**IWW**).
- ♦ Sida jajabyada iyo jajab-tobanleyaasha loogu rogo boqolley.
- ♦ Sida boqolley loogu rogo jajabyo ama jajab-tobanleyaal.
- ♦ Sida jajabyada la isu-garab-dhigo iyo sida loo hormeeyo.
- ♦ Sida jajabyada iyo jajab-tobanleyaasha loogu kala adeegsado xisaab-fallada kala ah, isu-gaynta, kala goynta, isku dhufashada iyo isu-qaybinta.

## Shaqo Kooxeedka 3.1

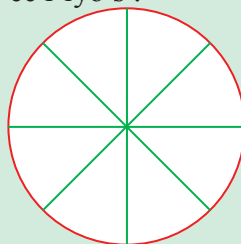
**1** Soo qaado xababad liin ah, isla markaana liinta u qaybi afar qaybood oo isle'eg, qaybaha afarta ahi u kala qaybi oo kala sii afar arday.

**b** Sideed u tibaaxi kartaa saami-wadaagga ardaydaada?

**t** Waa intee saami-wadaagga arday kasta? Ma odhan karnaa mid kasta waxaa uu helayaa 1? Ma odhan karnaa mid kasta oo ka mid ah ardayda waxaa uu helay hal-afraad?

**j** Adiga oo adeegsanaaya tirooyin side ayaad u tibaaxi kartaa saami-wadaagga arday kasta, oo ka mid ah ardaydaada?

**2** Dib (u fiiri) labada tallabo ee r iyo s .



Jaantuska 3.1

**b** Imisa waaxood oo isle'eg ayey goobadu u qaybsan tahay?

**t** Waax kasta oo ka mid ah waaxaha ku tibaax tirooyin?

**j** Hadhee  $\frac{1}{8}$  - ka ee jaantuska ah

- x** Hadhee  $\frac{2}{8}$  ka ee jaantuska
- kh** Hadhee  $\frac{3}{8}$  ka jaantuska ah
- d** Hadhee  $\frac{4}{8}$  ka jaantuska
- r** Hadhee  $\frac{6}{8}$  ka jaantuska
- s** Hadhee  $\frac{3}{4}$  ka jaantuska
- sh** Hadhee  $\frac{8}{8}$  ka jaantuska
- dh** Midkee baa weyn  $\frac{3}{4}$  iyo  $\frac{6}{8}$ ? (Dib u ugu noqo labada tallaabo ee s iyo sh hawshii aad ka soo qabatay).

**Qeexid 3.1:** Haddii “a” iyo “b” yihiin tirooyin.  $b - na \neq 0$ , isla markaana dhammaan loo qaybiyo qaybo isle’eg oo “b” ah, lagana qaato qaybta “a” oo ka mid ah qaybaha, kolkaa “ $\frac{a}{b}$ ” waxaa lagu magacaabaa Jajab.

“ $\frac{a}{b}$ ” waxaa loo akhriyaa “a” la hoos-dhigay “b”

Haddaba, jajabka ah “ $\frac{a}{b}$ ”, “a” waxaa lagu magacaabaa “Sarreeye”, “b” –na waxaa lagu magacaabaa “Hooseeye”.

**Tusaale ahaan:**

- b** Jajabka ah  $\frac{1}{2}$  macnahiisu waa sidan, walax dhammaanteed ayaan u qaybinay laba qaybood oo isle’eg, islamarkaana aan ka qaadanay hal-qayb oo ka mid ah qaybaha.
- t** Jajabka ah  $\frac{3}{4}$ , macnahiisu waa sidan; Walax dhammaanteed ayaan u qaybinay afar qaybood oo isle’eg, isla markaana waxaan ka qaadanay Saddex-qaybood oo ka mid ah qaybaha.

Jajabyadu waa qurubyo u taagan walax dhan

Haddii Tufaax aad u qaybiso afar qaybood oo isle'eg, isla markaana aad cunto hal-qayb, kolkaa jajabka  $\frac{3}{4}$  waxaa uu sharxayaa qurubyada (qaybaha) tufaaxa ah ee aan la cunin. Kolkaa wali waxaad haysataa saddex-afaraadka.

### 3.1 FUDUDAYNTA JAJABYADA

Cutub-hooseedkani wuxuu nabari doonaa sida jajab loogu beddelo qaab ama hab-fudud.

#### Hawlgalka 3.1

U fiirso jajabkan  $\frac{6}{8}$

- b** Raadi IWW 6 iyo 8.
- t** Sarreeyaha jajabka u qaybi 2.
- j** Hooseeyaha jajabka u qaybi 2.
- x** Qaado jawaabta aad ka heshay sarreeyaha “b” iyo jawaabta hooseeyaha “c” isla markaana ka samee jajab cusub. Waa maxay IWW sarreeyaha iyo hooseeyaha jajabka cusub?
- kh** Waa maxay xidhiidhka ka dhexeeya jajabka cusub iyo jajabkii hore ee  $\frac{6}{8}$ ?
- d** Guud ahaan, haddii lagu siiyey jajabka saan-saankiisu yahay  $\frac{a}{b}$ .  $b \neq 0$ , jajabkani ma u qori kartaa saan-saanka ah  $\frac{c}{d}$ ,  $d \neq 0$  IWW  $(c, d) = 1$ ? Qor tallaabooyinka aad qaadayso.

**Qeexid 3.2:** Haddii “a” iyo “b” yihiin laba tiro IWW  $(a, b) = 1$ , kolkaa jajabka  $\frac{a}{b}$  waxaa lagu magacaabaa jajabka ugu tibix yar (hooseeya).

Jajabka ugu tibixda yari waa jajabka ugu saansaanka fudud (sahlan). Jajabka ugu tibix yar waxaan u qori karnaa iyada oo aan u qaybino sarreeyaha iyo hooseeyaha IWW.

**Tusaale 1:** Qor tibixdiisa ugu yar jajabka  $\frac{6}{18}$ .

**Furfuris: Tallaabada – 1aad**

Soo saar IWW (6,18)

Isirrada 6: 1, 2, 3, 6.

Isirrada 18: 1, 2, 3, 6, 9, 6

Isirrada ay wadaagaan 6 iyo 18: 1, 2, 3, 6.

Sidaa darteed, IWW (6, 18) = 6

**Tallaabada – 2<sup>aad</sup>**

Sarreeyaha iyo hooseeyaha jajabka  $\frac{6}{18}$  labadaba u qaybi 6, isla markaana ka samee jajab cusub.

$$\frac{6}{6} = 1 \text{ iyo } \frac{18}{6} = 3$$

Kolkaa jajabka cusub waa  $\frac{1}{3}$ , IWW (1, 3) = 1

Marka aan qorno jajabka  $\frac{6}{18}$  tibixdiisa ugu yari, jawaabteedu waxa weeyaan  $\frac{1}{3}$ .

**Ogaal:** jajabyada  $\frac{6}{18}$  iyo  $\frac{1}{3}$  waxaa lagu magacaabaa jajabyo isu-dhigma.

Si aan u helno jajabyo isu-dhigma sarreeyaha iyo hooseeyaha labadaba waxaan ku dhufaneynaa ama u qeybinaynaa tiro isku mid ah.

**Tusaale 2:** u qor jajabkan  $\frac{80}{100}$  Heerkiisa ugu Hooseeya.

**Furfuris:**

**Tallaabadda 1<sup>aad</sup>:** Isirweynaha ay wadaagaan (IWW) (80, 100) = 20 sidee?

**Tallaabadda 2<sup>aad</sup>:** u qeybi hooseeyaha iyo sareeyahaba IWW kaas oo ah 20.

$$\text{Hadaba } \frac{80 \div 20}{100 \div 20} = \frac{4}{5}$$

**Qeexida 3.3:** Haddii  $b$  iyo  $t$  yihiin tirooyin tirsiimo, jajabka  $\frac{b}{t}$  waxaa lagu magacaabaa tirooyinka lakab ee togan. Ururka dhammaan tirooyinka lakab ee togon waxaa loo qoraa  $Q^+$ , waxaana loo Qeexaa

$$Q^+ = \left\{ \frac{b}{t} : b, t \in \mathbb{N} \right\}, \text{ Halka } \mathbb{N} \text{ ay tahay ururka tirooyinka Tirsiimo}$$

### Laylis 3.1

**1** Jajabyada soo socda qor tibxahooda ugu yar

<b>b</b>	$\frac{8}{10}$	<b>t</b>	$\frac{14}{12}$	<b>j</b>	$\frac{18}{24}$	<b>x</b>	$\frac{48}{60}$
<b>kh</b>	$\frac{24}{18}$	<b>d</b>	$\frac{216}{1080}$	<b>r</b>	$\frac{72}{60}$		

**2** Sheeg ugu yaraan seddex jajab oo kala duwan oo u dhigma

<b>b</b>	$\frac{3}{4}$	<b>t</b>	$\frac{1}{2}$
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**3** Jajabyadan soo socda keebaa u qoran heerkiisii ugu hooseeyey? Sharax sababta?

<b>b</b>	$\frac{2}{3}$	<b>t</b>	$\frac{18}{24}$	<b>j</b>	$\frac{6}{7}$
<b>x</b>	$\frac{10}{20}$	<b>kh</b>	$\frac{5}{4}$	<b>d</b>	$\frac{6}{30}$

## 3.2 ISKU BEDELLIDDA JAJABYADA, JAJAB – TOBANLEYAASHA IYO BOQOLLEYAASHA

Cuttub-Hoosaadkii Hore, Waxaad ku soo Aragteen, sida loo Fududeeyo jajabyada. Cuttub hoosaadkana, waxaad ku arki doontaan sida jajab loogu bedelo jajab – tobanluhu ay yihiin kuwo aan dhammaan waxaa lagu soo ururin laba ama seddex-god jajab-tobanlayaashu sidoo kale waxaa loo bedeli karaa jajab iyo Boqolkiiba, sidaa si ka soo horjeeda ayaad sidoo kale ugu bedeli kartaa boqolkiiba jajab iyo jajab-tobanle.

### 3.2.1 Jajabyada oo loo bedelayo jajab – tobanle iyo boqollay

Jajabku waa tiro inaga caawisa si aan cadayno qeybi intay ka tahay wax idil. Tiro Nooc kale oo inaga caawisa sidaan u caddayn lahayn qeybi intay ka tahay wax idil waa jajab - tobanlaha.

## Hawlgalka 3.2

U Bedel jajabyadan soo socda jajab-tobanle (Isticmaal qeybta dheer).

<b>b</b>	$\frac{1}{2}$	<b>t</b>	$\frac{3}{4}$	<b>j</b>	$\frac{2}{5}$	<b>x</b>	$\frac{8}{13}$	<b>kh</b>	$\frac{22}{7}$
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**Tusaale 1:** Aan qaadano tirada tirsiiimo ee 234. Haddii aan dhigno Barta “Meel u dhaxaysa godadka, tiradani waxay noqon jajab-toobanle. Tusaale ahaan 2.34, waxaa loo Akhriyaa laba dhibic seddex-afar, waana tiro jajab-tobanle ah. Barta aan dhigno godadka dhexdeeda waxaa la dhahaa Barta jajab-tobanlaha.

### Ku soo ururinta barta jajab-tobanlaha

Ku soo ururinta waa hab lagu qiyaaso tiro ta ugu dhaw taasoo ka yar ama ka badan. Ku soo ururinta Barta jajab-tobanle ay ka yar yihiin tirada Barta dhibicda ka dambeysaa kii hore.

Inagoo daadinayna dhammaan Godadka kale ee midigta ka xigga godka labaad ee marka laga bilaabo barta jajab tobanlaha dabadeed.

Haddaba, si aan ugu soo koobno laba God barta jajab tobanlaha Dabadeed waxaa fiirinaynaa Godka seddexaad ee barta jajab tobanlaha dabadeed.

- Haddii Tirada Godka seddexaad ee Barta jajab tobanlaha dabadeed ahi ay tahay 0, 1, 2, 3 ama 4 ha badalin labada god ee ka dambeeya barta jajab tobanlaha sidooda ha ahaadaan inta kalena daadi.
- Haddii tirada Godka seddexaad ee jajab tobanlaha dabadeed ay tahay 5, 6, 7, 8 ama 9 kordhi (kudar) hal Godka labaad ee barta jajab toban laha dabadeed inta kalena daadi.

### Si loogu soo kobo (ururiyo) Barta jajab tobanlaha Dabadeed seddex God

- Haddii tirada godka 4<sup>aad</sup> ee Barta jajab tobanlaha Dabadeed ay tahay 0, 1, 2, 3, ama 4 sidooda ku daa seddexda God ee barta jajab tobanlaha dabadeed inta kalena daadi.
- Haddii tirada Godka 4<sup>aad</sup> ee Barta jajab tobanlaha dabadeed ay tahay 5, 6, 7, 8 ama 9. Ku kordhi Godka 3<sup>aad</sup> ee Barta jajab tobanlaha Dabadeed 1, inta kale ee ka dambeysa Godka 3<sup>aad</sup> na iska daadi.

**Tsaale 2:** Ku soo ururi 3.5864 laba god barta jajab tobanlaha dabadeed.

**Furfuris:** Godka 3<sup>aad</sup> ee Barta jajab tobanlaha dabadeed waa 6 taasoo ka weyn 5. Waxaan u geyneynaa 1 tirada 8 inta kale ee Godka labaad ka dambeysana weynu daadin.

Sidaas darteed 3.5864 waxay ku soo ururi 3.59 laba God barta jajab tobanlaha dabadeed.

**Tusaale 3:** ku soo ururi 2.673462 saddex god barta jajab tobanlaha dabadeed.

**Furfuris:** Godka 4<sup>aad</sup> ee Barta jajab tobanlaha dabadeed waa 4 kaas oo ka yar 5 Dabadeed weynu daadin tirooyinka 3 midig ka xiga oo dhan. Sidaas darteed, 2.673462 waxaa lagu soo ururin 2.673 saddex god barta jajab tobanlaha dabadeed.

Waxaa ee jira laba hab kaasoo loogu badalo jajabka jajabtobanleyaal

**Habka 1:** U qor jajabyada lagu siiyey mid Hooseeyihiisu yahay 10,100,1000 iwm Adigoo ku dhufanaya isir ku haboon Dabadeedna u bedel jajabtobanle.

**Tusaale 4:** u Bedel  $\frac{3}{5}$  jajab tobanle.

**Furfuris :**  $\frac{3}{5} = \frac{3 \times 2}{5 \times 2} = \frac{6}{10} = 0.6$

**Tusaale 5:** u Bedel  $\frac{7}{20}$  jajab robanle

**Furfurs:**  $\frac{7}{20} = \frac{7 \times 5}{20 \times 5} = \frac{35}{100} = 0.35$

**Habka 2:** Waxaan isticmaalaynaa qeybta dheer, taasoo aan isuqeybinayno sareeyaha iyo hooseeyaha.

**Tusaale 6:** U bedel  $\frac{2}{5}$  jajab tobanle

**Furfuris:** Si loogu bedelo jajab, jajab tobanle, waxaan isticmaaleynaa qeybinta dheer.

$$\begin{array}{r} 0.4 \\ 5 \overline{) 20} \\ \underline{20} \\ 00 \end{array}$$



Hadaba,  $\frac{2}{5} = 0.4$

Ogow in qeybintan aan helnay hadhaa eber ah.

**Tusaale 7:** u bedel jajabkan  $\frac{2}{6}$  jajab tobanle.

$$\begin{array}{r} 0.3333\ldots \\ 6 \overline{) 20} \\ \underline{18} \phantom{00} \\ 20 \phantom{00} \\ \underline{18} \phantom{00} \\ 20 \phantom{00} \\ \underline{18} \phantom{00} \\ 20 \phantom{00} \\ \underline{18} \phantom{00} \\ 2 \phantom{00} \\ \cdot \phantom{00} \\ \cdot \phantom{00} \\ \cdot \phantom{00} \end{array}$$

Qeybtan dheer, hadhaagu waligii Eber ma noqonayo, waxaa si soo noqnoqosho leh u heleynaa hadhaaga 2. Isuqeybintu ma dhammaanayso.

Haddaba,  $\frac{2}{6} = 0.333\ldots$  marka aan ku soo ururino laba god

$$\frac{2}{6} = 0.33$$

Jajabyada noocan ah ee leh godadka aan dhammaan ee barta jajab tobanlaha Dabadeed waxaa la dhahaa jajab tobanlayaasha aan dhammaan ee soo noqnoqda.

**Qeexida 3.4:** Jajabtobanlayaasha tiro god oo go barta jajab tobanlaha dabadeed waxaa la dhahaa jajabtobanlaha dhammaada.

**Qeexida 3.5:** Jajabtobanlayaasha aan godadka ka dambeeya barta jajab tobanluhu dhammaanin waxaa la dhahaa jajab tobanlayaasha aan dhammaan.

**Tusaale 8:**

- i 0.234 waa jajabtobanle dhammaada
- ii 0.666... waa jajabtobanle aan dhammaan
- iii 1.22661 waa jajabtobanle dhammaada.

Jajabtobanleyaasha Godadka ka dambeeya Barta jajab tobanluhu waxay leeyihiin qiime rugeedyo Godka ku xigga Barta jajab tobanlaha waxaa la dhahaa hal-tobanad, Godka ku xiggaana waa halboqlaad, hal-kumaad iwm.

Tusaale ahaan, jajabtobanlaha 0.234, 2waxay ku jirtaa Godka hal-tobnaadka, 3na Godka hal-Boqlaad, 4-na Godka hal kumaad.

### Hawlgalka 3.3

- 1 Si koox ahaaneed u falanqeeya macnaha boqolley isla markaana u sharxa fasalka. Waa maxay sumadda baqolley?
- 2 Jajabyada soo socda u roga boqolley isla markaana tibaaxa idinka oo adeegsanaya sumadda boqolley.

**b**  $\frac{1}{2}$       **t**  $\frac{1}{4}$       **j**  $\frac{3}{4}$       **x** 1

**Qeexid 3.6:** Boqolley waa jajab hooseeyihiisu yahay 100

$\frac{a}{100} = a\%$ , waxaa loo akhriyaa 'a' boqolkiiba ama boqolkiiba 'a'.

**Tusaale 9:**

**b**  $\frac{3}{100} = 3\%$ ; Saddex boqolkiiba

**t**  $\frac{14}{100} = 14\%$ , Afar iyo toban boqolkiiba

**j**  $\frac{20}{100} = 20\%$ ; Labaatan boqolkiiba

**x**  $\frac{135}{100} = 135\%$ ; Boqol iyo shan iyo soddon boqolkiiba

Jajabka lagu siiyey si aad ugu rogto boqolley, waa inaad hooseeyaha jajabka ka dhigtaa 100.

Kolka aad sidaa samaynayso, waxaad u baahan tahay in sarreeyaha & hooseeyaha jajabka labaduba ku dhufato isir ku haboon.

Si aad jajab tabanle ugu baddasho boqolley, jajabka lagu siiyo ku dhufo  $\frac{100}{100}$ .

**Tusaale 10:** Jajabka  $\frac{1}{5}$  u rog boqolley.

**Furfuris:** Si aad jajabka  $\frac{1}{5}$  ugu rogto boqolley. Waxaad u baahan tahay in hooseeyaha jajabka ka dhigto 100. Marka aad sidaassi samayso, waa in aanu isbeddelin jajabku. Kolkaana waa in sarreeyaha iyo hooseyaha labadaba aad ku dhufataa isir ku haboon waa  $\frac{1}{5}$ . Sidaas awgeed;

$$\frac{1}{5} = \frac{1}{5} \times \frac{20}{20} = \frac{20}{100} = 20\%.$$

Markaa; kolkii  $\frac{1}{5}$  aad u beddeshay boqolley. Jawaabta waxa ay noqotay 20%.

### Layli 3.2

**1** Jajabyada soo socda u rog jajabtobanle.

<b>b</b>	$\frac{3}{5}$	<b>t</b>	$\frac{5}{2}$	<b>j</b>	$\frac{5}{6}$	<b>x</b>	$\frac{2}{7}$
<b>kh</b>	$\frac{7}{3}$	<b>d</b>	$\frac{1}{6}$	<b>r</b>	$\frac{11}{5}$	<b>s</b>	$\frac{100}{3}$

**2** Jajabyada soo socda u bedel jajab-tabanleyaal isla markaana sug haddii jawaabta jajab-tobanlayaashu yihiin kuwo xadleh ama xadlada. Jajab-tobanleyaasha xad la-da ah wareeji saddex rugood.

<b>b</b>	$\frac{1}{3}$	<b>t</b>	$\frac{3}{4}$	<b>j</b>	$\frac{3}{8}$	<b>x</b>	$\frac{2}{7}$
<b>kh</b>	$\frac{22}{7}$	<b>d</b>	$\frac{7}{3}$	<b>r</b>	$\frac{5}{6}$	<b>s</b>	$\frac{11}{3}$
<b>sh</b>	$\frac{9}{10}$	<b>dh</b>	$\frac{13}{15}$				

**3** Jajab-tobandeyaasha soo socda muuji qiima- rugeedka godka 3.

<b>b</b>	1.312	<b>t</b>	0.013	<b>j</b>	5.432	<b>x</b>	10.341
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**4** Jajabyada soo socda u beddel boqolley

<b>b</b>	$\frac{23}{100}$	<b>t</b>	$\frac{2}{5}$	<b>j</b>	$\frac{13}{50}$	<b>x</b>	$\frac{12}{7}$	<b>kh</b>	$\frac{8}{13}$
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### 3.2.2 Jajab – toban leyaasha Dhammaada oo loo bedelayo Jajabyo iyo Boqolley

#### Hawlgalka 3.4

**1** Jajab-tobanleyaasha dhamaada ee soo socda u bedel jajabyo.

<b>b</b>	0.5	<b>t</b>	0.25	<b>j</b>	0.75
<b>x</b>	0.01	<b>kh</b>	0.005	<b>d</b>	0.281

**2** JaJabyada sare u beddel boqolley

U beddelidda jajab-tobanleyaasha loo beddelaayo jajabyo waxa ay ku xidhan tahay in lagu dhufto ama loo qaybiyo tirooyinka 10,100,1000, 10,000 jab jab-toban leyaasha lagu siiyey. Sidaas oo kale jajabka xadka leh ee loo beddelayo boqolley waxay ku xidhan tahay in lagu dhufto ama loo qaybiyo 100 jajab – toban – laha lagu siiyey. Middana hooseeyaha ayey u beddeleysaa 100.

**Tusaale 11:** U fiirso jajabtobanlaha 0.12

- i** Jajab – toban laha u bedel jajab
- ii** Jajab – toban laha u bedel boqolley, boqolkiiba

**Furfuris:**

$$\begin{aligned} \text{i} \quad 0.12 &= 0.12 \times 1 \\ &= 0.12 \times \frac{100}{100} = \frac{12}{100} \end{aligned}$$

Marka jajabka 0.12 loo beddelo jajab, jawaabtu waa  $\frac{12}{100}$ .

Sidaa darted;  $0.12 = \frac{12}{100} = \frac{3}{25}$  (Waayo?).

- ii** U rogidda jajabka 0.12 loo beddelo boqolley.

$$\begin{aligned} 0.12 &= 0.12 \times \frac{100}{100} \\ &= \frac{12}{100} = 12\% \end{aligned}$$

**Tusaale 12:** Jajabka 0.145 u rog boqolley & jajab.

**Furfuris:** Jajabka lagu siiyey si aad ugu beddesho boqaleey, waxaad haysataa.

$$\begin{aligned} 0.145 &= 0.145 \times \frac{100}{100} \\ &= \frac{14.5}{100} = 14.5\% \end{aligned}$$

Jab jab-tobanlaha 0.145 si aad u rogto jajab, waxaad haysatay

$$0.145 = 0.145 \times \frac{100}{100} = \frac{145}{1000}$$

Sidaa awgeed;  $0.145 = \frac{145}{1000} = \frac{29}{200}$  (tibixdeeda ugu hooseyso)

**Ogaal:** Si jajab tobanlaha lagu siiyey ugu beddesho boqolley, jajab-tabanlaha lagu

siiyey waxaad ku dhufanaysaa  $\frac{100}{100}$ .

### Shaqo Kooxeedka 3.2

Tiri wadarta ardyda ee fasalkaaga kana Jawaab su'aalaha soo socda

- b** Waa maxay tirada ardyda ee labka ah?
- t** Waa maxay tirada ardayda ee dheddigga?
- j** Ku sug jajab ahaan ardyda labka ah inta ay ka yihiin tirada guud ee ardyda?
- x** Ardayda labka ah boqolkiiba imisa ayey ka yihiin fasalkaaga?
- kh** Jajab ahaan u sug ardyda dheddigga ah intaay ka yihiin tirada guud ee fasalkaaga?
- d** Boqolkaba intee dheddig ka ah ardyda fasalkaaga?

### Layli 3.3

**1** Jajab-tobanleyaasha soo socda u beddel jajab.

**b** 0.2      **t** 0.02      **j** 0.56      **x** 0.025

**kh** 0.64      **d** 0.72      **r** 21.32

**2** Jaja-tobanleyaasha (1) lagugu siiyey urog boqolley.

**3** Dheh (sheeg) run ama been

**b**  $0.25 = \frac{25}{100} = 25\% = \frac{1}{4}$       **t**  $\frac{1}{10} = 10\%$

**j**  $0.56 = \frac{14}{25}$       **x**  $\frac{7}{25} = 28\%$

**kh**  $0.025 = 25\%$       **d**  $0.025 = \frac{1}{40}$

### 3.2.3 U rogidda Boqolley, Jajabyo iyo Jajab-tobanleyaal

#### Hawlgalka 3.5

**1** Boqolleyada soo socda u beddel jajabyo kasaar isla markaana u fududee jawaabta jajabyada tibixda ugu hooseysa (yar)

<b>b</b>	80%	<b>t</b>	95%	<b>j</b>	15%
<b>x</b>	2.5%	<b>kh</b>	25%	<b>d</b>	1.5%

**2** Boqolleyada soo socda u beddel jajab-tobanle.

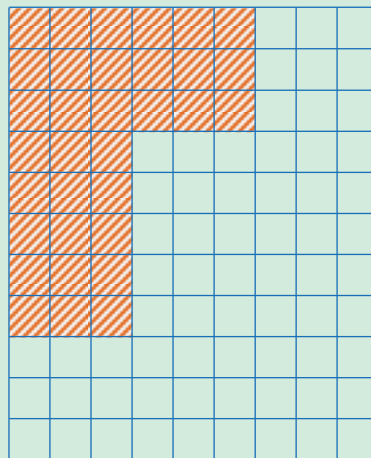
<b>b</b>	80%	<b>t</b>	95%	<b>j</b>	15%	<b>x</b>	2.5%
<b>kh</b>	35%	<b>d</b>	5%	<b>r</b>	0.24%		

**3** Raadi 20% ee tirooyinka soo socda

<b>b</b>	100	<b>t</b>	60	<b>J</b>	30	<b>x</b>	20
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#### Shaqo Kooxeedka 3.3

Eeg jaantuska hoose isla markaana ka jawaab weydiimaha soo socda



Jaantuska 3.2

- 1** Waaimisa wadarta tiro ee sanduuqyada ku jira jaantuska?
- 2** Imisa sanduuq ayaa Hadhaysan? Imisa sanduuq ayaan hadhaysnaayn?
- 3** Qor jajabka, jajab-tabanlaha iyo boqolleyada sanduuqyada hadhaysan.
- 4** Qor jajabka, jajab-tobanlalee iyo boqolleyda sanduuqyada aan hadhaaysnayn.
- 5** Jajabyadee aan soo noqnoqon, iyo kuwee soo noqnoqda?

Xusuusnow boqolleydu waa jajabyo hooseeyahoodu yahay 100. Sidaa awgeed boqolley waxaa loo qori kara? jajab & jajab-tobanle. Si boqolley loogu beddelo jajab waxaa boqolleyda loo qeybiyaa 100 isla markaana waa la fududeeyaa. Si boqolley loogu rogo jajab-tobanle, marka hore boqolleyda ayaa loo beddelaa jajab ka dibna jajabka ayaa loo rogaaj jajab-tobanle.

**Tusaale 13:**

**b** 35% u rog jajab

**t** 35% u rog jajab-tobanle

**Furfuris:** **b**  $35\% = \frac{35}{100}$ , marka lafududeeyo jajab kani waxa uu

noqonayaa  $\frac{7}{20}$

Sidaas darted  $35\% = \frac{35}{100} = \frac{7}{20}$

**t**  $35\% = \frac{35}{100} = \frac{7}{20} = 0.35$

$\begin{array}{ccc} \uparrow & \uparrow & \uparrow \\ \text{boqolley} & \text{jajab} & \text{jajab-tobanle} \end{array}$

**Ogaal:**

- 1** Haddii  $a < b$ , jajabka qaabkiisu yahay  $\frac{a}{b}$  waxaa lagu magacaabaa jajab qumman.
- 2** Haddii  $a > b$ , jajabka qaabkiisu yahay  $\frac{a}{b}$  waxaa lagu magacaabaa jajab ma-qummane ah.
- 3** Jajabka qaabkiisu yahay  $\frac{b}{c}$  waxaa lagu magacaabaa jajab-dhafaan.

**Tusaale 14:**

**b**  $\frac{3}{4}$  waa jajab qumman.

**t**  $\frac{1}{11}$  waa jajab qumman

**j**  $\frac{7}{6}$  waa jajab ma-qummane

**x**  $3\frac{1}{5}$  waa jajab dhafaan

**Layli 3.4****1** Boqolleyada soo socda u rog jajabyo

<b>b</b>	30%	<b>t</b>	12%	<b>j</b>	1.2%	<b>x</b>	0.07%
<b>kh</b>	0.05%	<b>d</b>	23%	<b>r</b>	39%	<b>s</b>	0.027%

**2** Boqolleyada soo socda u rog jajab-tobanleyaal

<b>b</b>	65%	<b>t</b>	135%	<b>j</b>	220%	<b>x</b>	15%
<b>kh</b>	60%	<b>d</b>	20%	<b>r</b>	66%	<b>s</b>	0.6%

**3** sheeg jajabyada soo socda inay yihiin iyo in – kale. Jajab qumman, jajab ma- qummane ama jajabyo dhafan.

<b>b</b>	$\frac{13}{50}$	<b>t</b>	$\frac{5}{2}$	<b>j</b>	$\frac{12}{7}$	<b>x</b>	$\frac{8}{100}$
<b>kh</b>	$3\frac{1}{6}$	<b>d</b>	$5\frac{1}{4}$				

**4** Dhammaystir tusaha hoose

Jajab	Jajab-tobanle	Boqolley
	0.21	21%
$\frac{13}{25}$		52%
		24%

**3.3 IS-BARBAR-DHIGGA IYO HORSANAANTA JAJABYADA**

Mowduuc hooseedkani, waxaad ku baran doontaan sida la isu-barbar dhigo iyo sida loo habeeyo jajabyada

Is-barbardhigidda jajabyada waxaa loo tixgelin karaa kale soocidda jajabyada weyn iyo kuwa yar yar. Habaynta jajabyada waxaa loo qaataa habka ay u kordhaan iyo sida ay a yaraadaan.



### Hawlgalka 3.6

**1** Midkee weyn lammaaneyaasha jajab ee lagu siiyey? Ku adeegso jawaabtaada summadaha kala ah.  $<$ ,  $>$  ama  $=$ .

**b**  $\frac{4}{10}$  iyo  $\frac{6}{10}$       **t**  $\frac{1}{12}$  iyo  $\frac{1}{10}$       **j**  $\frac{1}{5}$  iyo  $\frac{1}{2}$       **x**  $\frac{4}{10}$  iyo  $\frac{8}{10}$

**2** **b** Soo qaado mastarad aad ka samaysay kartoon una kala qeybi laba qeybood oo is le'eg, u tibaax qeyb kasta adigo oo u adeegsanaya jajabyo.

?	?
A	B

A \_\_\_\_\_

B \_\_\_\_\_

**t** mastaradda u qaybi 3 qayb oo isle'eg isla markaana qeyb kasta jajab ahaan u tibaax.

?	?	?
C	D	E

C \_\_\_\_\_

D \_\_\_\_\_

E \_\_\_\_\_

**j** Qaybahee ugu wayn? Kuwa b ama t?

**x** Mastaradda 4 isle'eg u qeybi, qayb kastana u tibaax jajab ahaan.

?	?	?	?
F	G	H	I

F \_\_\_\_\_

G \_\_\_\_\_

H \_\_\_\_\_

I \_\_\_\_\_

**kh** Is-barbar-dhig kuwa aad ka heshay **b** iyo kuwo **d**. Qaybahee isku mid ah?

Kolka aad is-barbardhigto jajabyo, haddi hooseeyayaashu isku mid yihiin, kuwa sarreeyahoodu yar yahay ayaa yar.

**Tusaale 1:**  $\frac{15}{100} < \frac{40}{100}$

Jajabyadan waxay leeyihiin hooseeye isku mid ah labaduba (100) isla markaana  $15 < 40$ .

Qaabka jajab-toban lana waa  $0.15 < 0.40$ .

**Tusaale 2:**  $\frac{40}{100} < \frac{55}{100} < \frac{60}{100}$

U firso jajabyada dhammaan waxa ay leeyihiin hooseeyayaal isku mid ah isla markaana midka ugu sarreeye yar ayaa ugu yar.

$40 < 55 < 60$ .

Haddii hooseeyayaasha jajabyadu aanu isku mid ahayn, waxaad adeegsan kartaa xeerka guud ee soo socda.

Haddii a, b, c, iyo d ay yihiin tirooyin tirsiiimo.

$$\frac{a}{b} > \frac{c}{d} \text{ haddii iyo haddii oo qudh ah}$$

$$a \times d > b \times c$$

$$\rightarrow \frac{3}{2} > \frac{2}{3} \text{ maadaama } 3 \times 3 > 2 \times 2$$

$$\Rightarrow 9 > 4$$

Marka aad is-barbar dhigayayso jajab toban layaasha, waxaad qaadataa tirada ka horreysa dhibicda, is la markaana tirada badan ee ka horreysa dhibicda ayaa tirada ugu weyn.

Haddii ay isle'eg yihiin isbarbar dhig godadka ka dambeeya una adeegso qiimaha godka.

Marka hore isbarbardhig godka qiimaha godadka tobanle. Godka tirada weyn leh ayaa ah qiimaha godka tobanlaha ah, haddii ay isku mid noqdaan isgarab – dhig, godadka boqoleyda, godka ugu weyn ayaa ah qiimaha godka boqolleyda. Haddii ay isku mid noqdaan isgarab – dhig, godadka kumaadka ah, qiimaha godka ku maadka ahna waa midka ugu tirada weyn sidaa iyo si la mid ah ku wad.

**Tusaale 3:** Midkee weyn 16.53 iyo 4.47

**Furfuris:** Si aad isbarbardhigto jajab-tobanlayaashan, waxaad is-barbardhigi tirooyinka ka horeeya dhibcaha midka wayni waa kan ka horreya dhibicda ee badan maadaama 16 kaweyn tahay 4, kolka 16.53 waxa ay ka weyn tahay 4.47.

$$\text{Taas oo ah } 16.53 > 4.47$$

**Tusaale 4:** midkee yar 3.51 ama 3.42?

**Furfuris:** Tirada ka horreysa dhibicda ee jajab tobanle walba waa 3.is-barbardhig godadka dhibicda ka dambeeye. Haddi ay isleeg yihin haltobnaad is-barbardhig godadka hal boqlaadka imika 3.51 godka hal-tobnaad ka waa 5, jajab – tobanlaha 3.42 godka tabnaadkiisuna waa 4.

Kolkaa 5 waxay ka weyn tahay 4. Sidaa awgeed; 3.42 waa ay ka yar tahay 3.51.

### Hawlgalka 3.7

**1** U habee jajabyadan soo socda dhanka ugu yar ila ka u weyn (Adeegso sumadda <).

**b**  $\frac{1}{12}, \frac{1}{10}$  iyo  $\frac{1}{8}$     **t**  $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$  iyo  $\frac{1}{5}$     **j**  $\frac{5}{12}, \frac{3}{4}, \frac{2}{3}$  iyo  $\frac{7}{8}$

**2** U habee jajabyada ka ugu weyn ilaa ugu yar (Adeegso sumaada >).

**b**  $\frac{1}{12}, \frac{1}{10}$  iyo  $\frac{1}{8}$     **t**  $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$  iyo  $\frac{1}{5}$     **j**  $\frac{5}{12}, \frac{2}{3}, \frac{3}{4}$  iyo  $\frac{7}{8}$

**3** U habee jajab-tobahleyaasha soo socda nidaamka ay u kala yar yihiin.

**b** 0.3, 0.52, 0.35    **t** 0.43, 0.72, 0.8, 0.38    **j** 1.3, 2.52, 0.35, 0.36

Haddi laba ama in ka badan oo jajabyo ah lagu siinayo, marka hore isu-barbardhig ama u habee si lammaane ah dhanka ugu yar ilaa dhanka ugu weyn ama dhanka ugu weyn ilaa dhanka ugu yar marka aad jajabyo u habaynaysid sida ay u kale yar yihiin, waxaad adeegsan dheeliga ah ka yar (<), markase aad u habaynaso sida ay u kala weynyihiin, waxaad adeegsan dheeliga ah ka weeyn (>).

**Tusaale 5:** U habee jajabayada soo socda sida ay u kala yar yihiin  $\frac{1}{3}, \frac{20}{3}, \frac{7}{3}, \frac{40}{3}$

**Furfuris:** Maadaama ay dhammaan jajabyadu leeyihiin hooseeyo isku mid ah, isbarbardhig sarreeyayaasha. Kolkaa waxaa ugu yar midka sarreeyaha

yar leh :  $\frac{1}{3} < \frac{7}{3} < \frac{20}{3} < \frac{40}{3}$ .

**Tusaale 6:** U habee jajabyada soo socda sida ay u kala weyn yihiin  $\frac{3}{10}, \frac{3}{5}, \frac{4}{6}$

**Furfuris:** Marka hore isu-barbardhig si lammaana ah

$$\frac{3}{5} > \frac{3}{10} \text{ sababta oo ah } 3 \times 10 > 5 \times 3$$

$$\frac{4}{6} > \frac{3}{5} \text{ sababta oo ah } 4 \times 5 > 3 \times 6$$

$$\text{Sidaa awgeed; } \frac{4}{6} > \frac{3}{5} > \frac{3}{10}$$

**Laylis 3.5**

- 1 U habee jajabyada soo socda sida ay u kala yar yihiin  
**b**  $\frac{1}{2}, \frac{3}{4}, \frac{4}{5}$  iyo  $\frac{1}{3}, \frac{5}{6}$       **t**  $\frac{5}{12}, \frac{2}{3}, \frac{3}{4}$  iyo  $\frac{7}{8}$   
**j**  $\frac{2}{3}, \frac{1}{5}, \frac{1}{6}, \frac{1}{4}$  iyo  $\frac{1}{2}$       **x**  $\frac{2}{3}, \frac{3}{8}, \frac{3}{10}, \frac{1}{2}$  iyo  $\frac{1}{4}$
- 2 U habee jajabyada soo socda sida ay u kala weyn yihiin  
**b**  $\frac{1}{2}, \frac{3}{4}, \frac{4}{5}, \frac{5}{6}$       **t**  $\frac{1}{5}, \frac{1}{2}, \frac{1}{4}, \frac{1}{3}, \frac{1}{6}$       **j**  $\frac{5}{12}, \frac{3}{8}, \frac{3}{10}, \frac{1}{2}$  iyo  $\frac{1}{4}$
- 3 U habee jajab-tobanleyaasha soo socda sida ay u kalayar yihiin  
**b** 0.6, 0.48, 0.62, 0.91, 0.86, 0.45      **t** 0.57, 0.63, 0.72, 0.48
- 4 U habee jajab-tobanleyaashan siday u kala weyn yihiin  
0.58, 0.65, 0.9, 0.28, 0.73
- 5 Kuwa soo socda u rog boqolley isla markaana u habee sida ay u kala yar yihiin 0.2, 0.67, 0.25, 0.35,  $\frac{4}{5}, \frac{2}{5}$ .

### 3.4 ISU-GAYNTA IYO KALA-GOYNTA JAJABYADA IYO JAJAB- TOBANLAYAASHA

Cutub-hooseedkani, wuxuu sii xoojin doonaa aqoontiina laxidhiidha isugaynta iyo kala goynta ee jajabyada iyo jajab-tobanlayaasha. Sidoo kale waxaad ku baran doontaan hababka la isugu geeyo loona kala jaro jajabyada hooseeyayaashoodu isku midka yahay & kuwa leh hooseeyayaal kala duwan. Hab-socodka gudihiisa waxaad ku baran doontaan hababka looga shaqeeyo jajabyada leh hooseeyayaal kala duwan sidoo kale ka shaqaynta jajabyada leh hooseeyayaal isku mid ah sida si la mid ah ayaad ku dhigan doontaan xisaab – fallada jajab –tobanle yaasha.

#### 3.4.1 Isu-Geynta jajabyada iyo jajab tobanlayaasha

Ka hor inta aadan isku dayin isu-gaynta jajabyo, waa inaad xusuusataa sida loo soo saaro dhufsane yaraha ay wadaagaan (Dh.Y.W) laba ama in ka badan oo tiro-tirsiimo ah. Si aad isugu geyso jajabyo leh hooseeyeye iskumid ah, waxaanu qaadan hooseeyaha ay wadaagaan isla markaana isu-geyneyana sarreyeyaasha.

**Tusaale 1:** Isu-gee

**b**  $\frac{5}{6} + \frac{4}{6}$

**t**  $\frac{1}{3} + \frac{4}{3}$

**Furfuris: b** Maadaama labada jajabba leeyihiin hooseeye isku mid ah, waxaad qaadan mid isla markaana isu-gee sarreeyayaashooda.

$$\frac{5}{6} + \frac{4}{6} = \frac{5+4}{6} = \frac{9}{6} = \frac{3}{2}$$

**t** Sidaas si la mid ah,  $\frac{1}{3} + \frac{4}{3} = \frac{1+4}{3} = \frac{5}{3}$ .

### Shaqo Kooxeedka 3.4

**1** Haddii la idin weyddiiyey isugeeynta jajabyo leh hooseeyeyaal kala geddisan, sidee ayaad uga shaqayn lahaydeen? Ku falanqeeya kooxo kana soo jeediyo fasalka.

**2** Isu-geeya jajabyada soo socda

**b**  $\frac{1}{2} + \frac{1}{3}$

**t**  $\frac{1}{4} + \frac{1}{5}$

**j**  $\frac{1}{2} + \frac{2}{3}$

Si aad isugu-geyso jajabyo hooseeyeyaal kala duwan leh, marka hore hooseeyeyaaasha ka dhig isku mid adiga oo isticmaalaya dh y w ee hooseeyeyaaasha ka dibna isu-gee sarreeyeyaaasha.

**Tusaale 2:** Isu – gee jajabyada soo socda.

**b**  $\frac{1}{4} + \frac{3}{5}$

**t**  $\frac{5}{7} + \frac{1}{2}$ ,

**Furfuris: b** Maadaama hooseeyeyaaashu kala duwan yihiin, marka hore hooseeyeyaaasha ka dhig isku mid. Aan soo saarno dh.y.w ee 4iyo5.

Dhufsanyaasha 4: 4, 8, 12, 16, 20, 24

Dhufsanyaasha 5: 5, 10, 15, 20, 25, 30

DH.Y.W 4 iyo 5 waa 20.

Kolkaa, hooseeyeyaaasha jajabyadu labadaba ka dhigeyna isirka munaasabka ah ee 20.

$$\begin{aligned} \text{Sida darteed; } \frac{1}{4} + \frac{3}{5} &= \frac{1}{4} \times \frac{5}{5} + \frac{3}{5} \times \frac{4}{4} \\ &= \frac{5}{20} + \frac{12}{20} \\ &= \frac{5+12}{20} = \frac{17}{20} \end{aligned}$$

$$\begin{aligned} \text{t Sidoo kale:- } \frac{5}{7} + \frac{1}{2} &= \frac{5}{7} \times \frac{2}{2} + \frac{1}{2} \times \frac{7}{7} \\ &= \frac{10}{14} + \frac{7}{14} = \frac{17}{14} \end{aligned}$$

**Ogaal:**

$$1 \quad \text{Haddii } \frac{a}{b} \text{ iyo } \frac{c}{d} \text{ yihiin jajabyo, kolkaa, } \frac{a}{b} + \frac{c}{d} = \frac{a \times d + b \times c}{b \times d}.$$

$$2 \quad \text{Haddii } a\frac{b}{c} \text{ ay tahay jajab dhafane, } a\frac{b}{c} = a + \frac{b}{c} = \frac{a}{1} + \frac{b}{c} = \frac{a \times c + b}{c}$$

**Tusaale 3:** Isu-gee jajabyada soo socda.

$$\text{b} \quad \frac{2}{5} + \frac{3}{4}$$

$$\text{t} \quad 1\frac{1}{3} + 2\frac{1}{2}$$

**Furfuris:**

$$\begin{aligned} \text{b} \quad \text{Adeegsiga ogaalka sare, } \frac{2}{5} + \frac{3}{4} &= \frac{2 \times 4 + 5 \times 3}{5 \times 4} \\ &= \frac{8 + 15}{20} = \frac{23}{20}. \end{aligned}$$

$$\begin{aligned} \text{t} \quad 1\frac{1}{3} &= \frac{1}{1} + \frac{1}{3} = \frac{1 \times 3 + 1 \times 1}{1 \times 3} = \frac{3 + 1}{3} = \frac{4}{3} \\ 2\frac{1}{2} &= \frac{2}{1} + \frac{1}{2} = \frac{2 \times 2 + 1 \times 1}{1 \times 2} = \frac{4 + 1}{2} = \frac{5}{2} \end{aligned}$$

$$\begin{aligned} \text{Sidaa awgeed; } 1\frac{1}{3} + 2\frac{1}{2} &= \frac{4}{3} + \frac{5}{2} \\ &= \frac{4 \times 2 + 3 \times 5}{3 \times 2} \\ &= \frac{8 + 15}{6} = \frac{23}{6} \end{aligned}$$

Si aad isugu geyso laba jajab-tobanle, qor bilow ilaa dhammaad adiga oo dhibicda dhigaya meelo isku mid ah.

Dabadeed isu wada gee godadka hal tobnadka hal boqlaadka iyo wixii la mid ah Haddii jajab-tobanluhu godadka tirooyinkoodu isku mid ahayn ku darso eber si ay isugu beegmaan qiimayaasha godadku.

**Tusaale 4:** Isu-gee jajab-tobanleyaasha soo socda.

$$\text{b} \quad 0.22 + 0.37$$

$$\text{t} \quad 0.263 + 0.451$$

$$\text{j} \quad 3.84 + 0.372$$

**Furfuris:**

$$\begin{array}{r} 0.22 \\ + 0.37 \\ \hline 0.59 \end{array}$$

$$\begin{array}{r} 0.263 \\ + 0.451 \\ \hline 0.714 \end{array}$$

$$\begin{array}{r} 3.840 \\ + 0.372 \\ \hline 4.212 \end{array}$$

Kudarso eber si qiimaha  
godadku isugu beegmo

**Laylis 3.6****1** Jajabyada soo socda mid kasta isu-gee

$$\mathbf{b} \quad \frac{3}{4} + \frac{5}{4}$$

$$\mathbf{t} \quad \frac{1}{6} + \frac{7}{6}$$

$$\mathbf{j} \quad \frac{1}{2} + \frac{1}{4}$$

$$\mathbf{x} \quad \frac{2}{5} + \frac{1}{3}$$

$$\mathbf{kh} \quad \frac{3}{5} + \frac{1}{2} + \frac{1}{3}$$

$$\mathbf{d} \quad \frac{5}{8} + \frac{1}{2} + \frac{2}{3}$$

$$\mathbf{r} \quad \frac{1}{10} + \frac{1}{2}$$

**2** Jajab-tobanleyaasha soo socda isugee

$$\mathbf{b} \quad 0.53 + 0.45$$

$$\mathbf{t} \quad 0.47 + 0.35$$

$$\mathbf{j} \quad 0.92 + 0.75$$

$$\mathbf{x} \quad 0.271 + 0.451$$

$$\mathbf{kh} \quad 1.358 + 0.814$$

$$\mathbf{d} \quad 0.385 + 0.6712$$

$$\mathbf{r} \quad 0.925 + 0.034$$

**3.4.2 Kala goynta Jajabyada & Jajab tobanleyaasha****Hawlgalka 3.8****1** Kala goo jajabjyada soo socda:-

$$\mathbf{b} \quad \frac{4}{5} - \frac{1}{5}$$

$$\mathbf{t} \quad \frac{3}{2} - \frac{1}{2}$$

$$\mathbf{j} \quad \frac{7}{8} - \frac{3}{5}$$

**2** Hana ayaa soo iibsatay  $\frac{3}{4}$  litir oo saliidda cuntada  $\frac{1}{4}$  oo saliida ah ayey u isticmaashay inay cunto ugu kariso qoyskeeda, waa intee jajabka saliidda ah ee u hadhay?**3** Kala goo jajab-tobarleyaasho soo socda.

$$\mathbf{b} \quad 0.75 - 0.25$$

$$\mathbf{t} \quad 0.897 - 0.368$$

$$\mathbf{j} \quad 0.749 - 0.387$$

Hababkii aad ku soo adeegsatay isu gaynta ayuun baad ku adeegsan kala goynta. Kala goynta jajabyada waxay la mid tahay sidii aad ku isticmaashay isu-gaynta,

aanse ka ahayn halkii sarreryayaasha aad isku gaynaysay ayuun baad kale jari. Sidaa derteed hooseeyayaasha isku midbaad ka dhigi islamarkaana sarreeyayaasha ayaad kala jari.

Balse, waxaad xusuusataa inta aadan jajabka kala jarin ka hor jajabka dhafan u beddel jajab ma-qummane.

**Tusaale 5:** Jajabyada soo socda kala goo

**b**  $\frac{3}{4} - \frac{1}{4}$

**t**  $\frac{6}{7} - \frac{1}{2}$

**Furfuris:**

- b** Maadaama jajabyada labaduba leeyihiin hooseeye isku mida, waxaanu qaadan hooseeye ay wadaagaan islamarkaana sarreeyayaasha ayaad kala jari.

$$\frac{3}{4} - \frac{1}{4} = \frac{3-1}{4} = \frac{2}{4} = \frac{1}{2}$$

- t** Xaaladani Hooseeyayaasha isku mid ma-aha, sidaa awgeed hooseeyayaashaan ka dhigaynaa isku mid anaga oo dooranayna isir ku haboon.

$$\begin{aligned} \frac{6}{7} - \frac{1}{2} &= \frac{6}{7} \times \frac{2}{2} - \frac{1}{2} \times \frac{7}{7} \\ &= \frac{12}{14} - \frac{7}{14} = \frac{12-7}{14} = \frac{5}{14} \end{aligned}$$

**Tusaale 6:** Kuwa soo socda kala goo

**b**  $0.73 - 0.23$

**t**  $0.4 - \frac{1}{5}$

**Furfuris:**

**b** 
$$\begin{array}{r} 0.73 \\ -0.23 \\ \hline 0.50 \end{array}$$

- t** Maadaama tibxaha la ina siiyey ayna isku mid ahayn, marka hore jajabka aan u beddelno jajab – tobanle.

$$\frac{1}{5} = 0.2$$

$$\text{Kolkaa: } 0.4 - \frac{1}{5} = 0.4 - 0.2 = 0.2$$



**Ogaal:** Haddii  $\frac{a}{b}$  iyo  $\frac{c}{d}$  ay jajab yihiin, oo,  $\frac{a}{b} > \frac{c}{d}$  markaa

$$\frac{a}{b} - \frac{c}{d} = \frac{a \times d - b \times c}{b \times d}$$

**Tusaale 7:** Kala goo jajabyada soo socda.

**b**  $\frac{6}{5} - \frac{3}{5}$

**t**  $\frac{14}{2} - \frac{7}{3}$

**Furfuris: b**  $\frac{6}{5} - \frac{3}{5} = \frac{6 \times 1 - 3 \times 1}{5}$   
 $= \frac{6 - 3}{5} = \frac{3}{5}$

**t**  $\frac{14}{2} - \frac{7}{3} = \frac{14 \times 3 - 7 \times 2}{2 \times 3}$   
 $= \frac{42 - 14}{6}$   
 $= \frac{28}{6} = \frac{14}{3}$

### Laylis 3.7

**1** Kala goo jajabyada soo socda.

**b**  $\frac{3}{4} - \frac{1}{8} = \underline{\hspace{2cm}}$

**t**  $\frac{6}{7} - \frac{1}{2} = \underline{\hspace{2cm}}$

**j**  $\frac{7}{9} - \frac{1}{3} = \underline{\hspace{2cm}}$

**x**  $\frac{7}{8} - \frac{1}{12} = \underline{\hspace{2cm}}$

**kh**  $\frac{5}{8} - \frac{1}{3} = \underline{\hspace{2cm}}$

**d**  $\frac{4}{5} - \frac{5}{12} = \underline{\hspace{2cm}}$

**r**  $\frac{5}{12} - \frac{1}{8} = \underline{\hspace{2cm}}$

**s**  $\frac{28}{10} - \frac{14}{8} = \underline{\hspace{2cm}}$

**sh**  $\frac{16}{12} - \frac{16}{12} = \underline{\hspace{2cm}}$

**dh**  $\frac{19}{5} - \frac{14}{5} = \underline{\hspace{2cm}}$

**2** Kala goo jajab-tobanleyaasha soo socda:

**b**  $0.469 - 0.142$

**t**  $0.847 - 0.307$

**j**  $0.682 - 0.471$

**x**  $0.889 - 0.268$

**kh**  $0.759 - 0.432$

**d**  $0.123 - 0.2$

**3** Kala goo jajabyada soo socda

**b**  $20\frac{2}{5} - 17\frac{1}{2}$

**t**  $6\frac{1}{3} - 2\frac{1}{3}$

**j**  $5\frac{2}{5} - 2\frac{1}{4}$

- 4** Nin beeraley ah ayaa  $\frac{1}{5}$  ka qoday dhulka beertiisa maalintii isniinta ahayd,  $\frac{1}{4}$  waxuu qoday Talaadadii, hadii baaxada dhulbeereedku yahay 1
- b** Waa intee dhulka jajab ahaan u hadhay ee aan la qodin?
- t** Boqolkiiba dhul intee ah ayaa la qoday?
- j** Boqolkiiba dhul in tee ah ayaan la qodin?

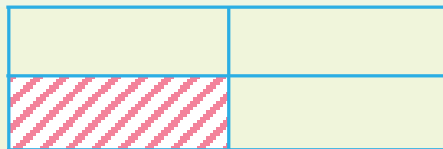
### 3.5 ISKUDHUFASHADA IYO ISUQAYBINTA JAJABYADA IYO JAJAB-TOBANLAYAASHA

Fasalladeenii hoose waxaad xariif ku ahayd isku dhufashada jajabyada guud ahaan iyo gaar ahaanba. Mowduuc hooseedkani waxaad aqoontaada ku kobcin doontaa isku dhufashada jajabyada iyo shaqo leh masalooyin aad ku leylyamaysid, taas oo khusaysa isku dhufashada jajabyada & jajab-tobanleyaasha.

#### 3.5.1 Iskudhufahsada Jajabyo iyo Jajab - tobanleyaasha

#### Hawlgalka 3.9

- 1** Eeg jaantuska hoose isla markaana ka jawaab su'aalahan soo socda.



Jaantaska 3.3

- b** Imisa qeyb isleeg ayuu u qaybsan yahay shaxanku?
- t** Maku tibaaxi kartaa jajab badh kamid ah shaxanka?
- j** Ma u tibaaxi karata qaybta hadhaysan jajab?
- x** Ma u tibaaxi karataa qaybta hadhaysan sidi iskudhufashada laba jajab?

- 2** Soo saar badhka jajabbada soo socda

<b>b</b>	2	<b>t</b>	$\frac{1}{2}$	<b>j</b>	$\frac{1}{3}$	<b>x</b>	$\frac{1}{4}$
<b>kh</b>	$\frac{3}{4}$	<b>d</b>	$\frac{5}{6}$	<b>r</b>	$\frac{2}{3}$	<b>s</b>	$\frac{6}{5}$

- 3** Soo saar  $\frac{1}{4}$  kuwa soo socda.
- b**  $\frac{2}{15}$       **t**  $\frac{1}{6}$       **j**  $\frac{2}{5}$       **x**  $\frac{5}{8}$       **kh**  $\frac{10}{9}$
- 4** Waa intee  $\frac{2}{3}$  ee 60?
- 5** Raadi  $\frac{2}{3}$  ee 45.
- 6** Isku-dhufo jajab-tobanlaha lagu siiyey.
- b**  $0.342 \times 2$       **t**  $0.0213 \times 0.2$       **j**  $0.412 \times 0.21$
- 7** Cayaaryahan ayaa cabba  $\frac{3}{4}$  litir oo caano ah shan maalmood toddobaadkii, imisa litir oo caano ah ayuu cabbaa cayaaryahanku toddobaad kasta?

Jajab ayaan ku dhufan karnaa jajab, sidoo kale jajabnn waxaan kudhufan karnaa jajab-tobanle ama mid tobanle –tobanle kale.

Si aad laba jajab isugu dhufato, sarreeyaha jajabyada midkood ayaad ku dhufan sarreayaha jajab kale iyo hooseeyaha mid ayaad ku dhufan hooseeyaha midka kale.

**Ogaal:** Erayga “ee” Macnaahisu waa isku dhufasho.

**Tusaale ahaan:**  $\frac{2}{3}$  ee 60 macno ahaan waa,  $\frac{2}{3} \times 60 = \frac{120}{3} = 40$

$\frac{2}{5}$  ee 0.7 macno ahaan waa,  $\frac{2}{5} \times 0.7 = 0.4 \times 7 = 0.28$

**Tusaale 1:** iskudhufo jajabyada soo socda.

**b**  $\frac{1}{2} \times \frac{1}{3}$       **t**  $\frac{2}{3} \times \frac{5}{7}$

**j**  $\frac{6}{7} \times \frac{14}{15}$       **x**  $1\frac{1}{2} \times \frac{5}{6}$

**Furfuris: b**  $\frac{1}{2} \times \frac{1}{3} = \frac{1 \times 1}{2 \times 3} = \frac{1}{6}$

**t**  $\frac{2}{3} \times \frac{5}{7} = \frac{2 \times 5}{3 \times 7} = \frac{10}{21}$

**j**  $\frac{6}{7} \times \frac{14}{15} = \frac{6 \times 14}{7 \times 15} = \frac{84}{105} = \frac{4}{5}$

$$\begin{aligned} \times \quad 1\frac{1}{2} \times \frac{5}{6} &= \frac{3}{2} \times \frac{5}{6} \text{ (sababta oo ah } 1\frac{1}{2} = 1 + \frac{1}{2} = \frac{3}{2}) \\ &= \frac{15}{12} = \frac{5}{4} = 1\frac{1}{4} \text{ (jajab-dhafan ahaan ayey u qoran)} \end{aligned}$$

**Tusaale 2:** Isku dhufo jajab-tobanlayaasha soo socda

$$\mathbf{b} \quad 0.32 \times 0.5 \qquad \mathbf{t} \quad 0.802 \times 0.31$$

**Furfuris:**  $\mathbf{b} \quad 0.32 \times 0.5$

Marka Hore 32 kudhufo 5, kuna siinaysaa 160, si aad u sugto meesha dhibicda waxaad tirin tirada godadka ee ka dambeeye dhibicda jajabyada labaduba, waxayna tahay 3. Sidaas awgeed tarantu waa inay lahaato 3 god oo ka danbeeya barta jajabtobanlaha(dhibicda), kolkaa  $0.32 \times 0.5 = 0.160$ .

Tallaabooyinka soo socdo ayaan ku soo koobi karnaa

**Tallaabade 1:** Ka tir dhibicda

**Tallaabade 2:** Raadi  $32 \times 5$

**Tallaabade 3:** dib u dhig dhibic (wadarta tirada godadka ka dambeeye dhibicda ee weydiinta waxay leegtahay tirada godadka ka dambeeye dhibicda ee jawaabta.

$$\mathbf{t} \quad 0.802 \times 0.31$$

Sidoo kale

$802 \times 31 = 24862$  isla markaa dhibicdu waa inay noqotaa shan god ka dib,

Sidaa darteed;  $0.802 \times 0.31 = 0.24862$

Sidan ayaan u soo koobi karnaa

**Tallaabade 1:** Tir dhibicda

**Tallaabade 2:** Raadi  $802 \times 31$

**Tallaabade 3:** Dhig dhibicda ee ee natiijadu 0.24862 waxaan ku soo ururiin karnaa laba jajab sida 0.25

Sidoo kale waxaa suurtagal ah in jajab-tobanle lagu dhufto jajab, laakiinse waa inaanu tibaaxaha isku mid ka dhignaa. Taas oo macnaheedu yahay in labaduba u beddelno jajab ama aan u rogno god-tobanle.

**Tusaale 3:** Isku-dhufo

$$\text{b} \quad 0.25 \times 4 \quad \text{t} \quad \frac{4}{9} \times 0.57 \quad \text{j} \quad \frac{5}{9} \times 0.25$$

**Furfuris:** **b** Marka hore 0.25 aan u bedelno jajab.

$$0.25 = \frac{25}{100} = \frac{1}{4}$$

$$\text{Kolkaa } 0.25 \times 4 = \frac{1}{4} \times \frac{4}{1} = 1$$

**t** Marka hore 0.57 aan u beddelno jajab

$$0.57 = \frac{57}{100}$$

$$\text{Kolkaa: } 0.57 \times \frac{4}{9} = \frac{57}{100} \times \frac{4}{9} = \frac{228}{900} = \frac{19}{75}$$

$$\text{j} \quad \text{Sidoo kale } \frac{5}{9} \times 0.25 = \frac{5}{9} \times \frac{25}{100} = \frac{125}{900} = \frac{5}{36}$$

**Layli 3.8****1** Iskudhufo jajabyada lagu siiyey

$$\begin{array}{lll} \text{b} & \frac{1}{2} \times \frac{2}{3} & \text{t} \quad \frac{1}{6} \times \frac{12}{13} & \text{j} \quad \frac{27}{11} \times \frac{11}{27} \\ \text{x} & \frac{35}{13} \times \frac{13}{35} & \text{kh} & \frac{20}{9} \times \frac{7}{10} & \text{d} & \frac{3}{5} \times \frac{15}{18} \\ \text{r} & \frac{10}{143} \times \frac{143}{27} & \text{s} & \frac{8}{17} \times \frac{51}{64} & \text{sh} & 2\frac{2}{3} \times \frac{6}{7} \\ \text{dh} & 2\frac{2}{5} \times 2\frac{1}{2} & & & & \end{array}$$

**2** Iskudhufo jajab-tobanlaha lagu siiyey

$$\begin{array}{ll} \text{b} & 0.75 \times 0.32 \\ \text{j} & 0.612 \times 0.02 \end{array} \quad \begin{array}{ll} \text{t} & 0.59 \times 0.13 \\ \text{x} & 0.861 \times 0.121 \end{array}$$

**3** Iskudhufo

$$\begin{array}{lll} \text{b} & 0.75 \times \frac{2}{3} & \text{t} \quad 0.5 \times \frac{1}{2} & \text{j} \quad 0.625 \times \frac{1}{4} \\ \text{x} & 0.5 \times \frac{21}{20} & \text{kh} & 0.35 \times \frac{1}{7} \end{array}$$

**4** Ka jawaab su'aalaha soo socda.

**b** Waa intee boqolkiiba 10 ee 60

**t** Soo saar  $\frac{5}{9}$  ee  $\frac{2}{7}$

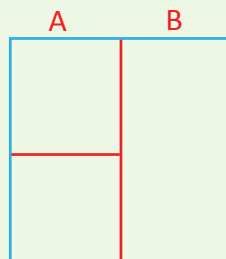
**j** Waa maxay taranta  $\frac{4}{5}$  iyo  $\frac{15}{16}$

### 3.5.2 Isuqaybinta Jajabyada iyo Jajab – tobanleyaasha`

#### Hawlgalka 3.10

**1** Miyaad heli kartaa  $\frac{1}{2}$  ee  $\frac{1}{2}$  sideed ugu muujin kartaa adigoo isticmaalaya jajab?

**2** Jaantuska hoose, waxaa jira laba sanduuqyo, haddii aad u qeybiso sanduuqa A hoostiisa laba meelood oo isle'eg, waa maxay maxsuulku? (Adigoo isticmalaya jajab).



**3**  $\frac{1}{2}$  u qeybi jajabka  $\frac{2}{5}$ , macnaheedu waa  $\frac{1}{2} \div \frac{2}{5}$

**4** Raadi  $\frac{1}{2} \times \frac{5}{2}$

**5** Isbarbar dhig jawaabaha aad ka heshay 3 iyo 4, miyaad u dhigi kartaa qaab-guud?

**6** **b** xisaabi  $\frac{12}{25} \div \frac{4}{5}$  **t** xisaabi  $\frac{12}{25} \div \frac{5}{4}$

**j** isbarbar dhig jawaabaha b iyo t iskuday inaad u dhigto qaab (hab) guud.

**7** Xisaabi  $0.125 \div 0.35$

Isuqeybinta jajabyadu waa ta ugu fudud marka loo eego rogaaladooda jajabkastaa wuxuu leeyahay rogaal isku-dhufasho rogaalka jajabku waa jajab kale kaasoo marka lagu dufto jajabka tarantu noqoto 1.

Tusaale: Rogaalka isku dhufashada ee  $\frac{2}{3}$  waa  $\frac{3}{2}$ . Sidaad ugu qeybiso jajabka  $\frac{b}{t}$  jajabka  $\frac{j}{x}$ ,  $\frac{b}{t}$  ku dhufo rogaalka  $\frac{j}{x}$  sida:  $\frac{b}{t}$  iyo  $\frac{j}{x}$  waa jajabyo, dadadeedna

$$\frac{b}{t} \div \frac{j}{x} = \frac{b}{t} \times \frac{x}{j} = \frac{b \cdot x}{t \cdot j}$$

**Tusaalaha 4:** xisaabi kuwan soo socda

**b**  $6 \div \frac{11}{3}$       **t**  $\frac{1}{2} \div \frac{13}{5}$       **j**  $\frac{4}{7} \div \frac{16}{21}$

**Furfuris:** **b**  $6 \div \frac{11}{3} = \frac{6}{1} \times \frac{3}{11} = \frac{18}{11}$

**t**  $\frac{1}{2} \div \frac{13}{5} = \frac{1}{2} \times \frac{5}{13} = \frac{5}{26}$

**j**  $\frac{4}{7} \div \frac{16}{21} = \frac{4}{7} \times \frac{21}{16} = \frac{84}{112} = \frac{3}{4}$

Jajabtobanle si loogu qeybiyo jajabtobanle, marka 1<sup>aad</sup> waa inaad u bedeshaa oo labada jajabtobanleba jajab, dadadeedna isticmaal habka jajab loo qeybinayo jajab.

**Tusaalaha 5:** xisaabi kuwan soo socda

**b**  $0.2 \div 0.4$       **t**  $25.6 \div 0.16$

**Furfuris:** **b**  $0.2 \div 0.4$  si aad isugu qeybiso marka 1<sup>aad</sup> u bedel labadaba jajabyo.

Haddaba,  $0.2 \div 0.4$

$$0.2 = \frac{2}{10} = \frac{1}{5}$$

$$0.4 = \frac{4}{10} = \frac{2}{5}$$

$$\text{Sidaas darteed } 0.2 \div 0.4 = \frac{1}{5} \div \frac{2}{5} = \frac{1}{5} \times \frac{5}{2} = \frac{5}{10} = \frac{1}{2} = 0.5$$

**t** Si la mid ah

$$25.6 = \frac{256}{10}, 0.16 = \frac{16}{100}$$

$$\text{Sidaas darteed } \frac{256}{10} \div \frac{16}{100} = \frac{256}{10} \times \frac{100}{16} = \frac{25600}{160} = 160$$

Habka kale ee jajabtobanle loogu qeybin karaa jajabtobanle kale waa in loo bedelo jajab tobanleyaasha tirooyin tirsiiimo, ayadoo loo dhaqaajinayo barta jajabtobanlaha xagga midig inta lagama maarmaanka ah si looga dhigo tiro tirsiiimo, dabadeedna isticmaal qeybinta dheer.

**Tusaalaha 6:** 21.5 u qeybi 0.006

**Furfuris:** 
$$\frac{21.5}{0.006} = \frac{21.5 \times 1000}{0.006 \times 1000}$$
$$= \frac{21500}{6} = 3583.33 \text{ (marka lagu soo ururiyo laba god).}$$

### Qormo saynis

Tirooyinka tirsiiimo waxaa loo qori ama caddayn karaa qaabab kala duwan.

Hal nooc waxaa loo yaqaan qormosaynis tiro markaan qorayno anagoo isticmaaleyna qormo saynis, tirada waxaa loo qori sida taranta jajabtobanle iyo jibbaarka 10.

Sida 10 (10, 100, 1000) adoo hal tiro ama hal-god oo aan ahayn eber uu ka horeeyo barta jajabtobanlaha.

**Tusaalaha 7:**

- 1 39 waxaa loo qori karaa ayadoo la isticmaalayo qormo-saynis sida  $3.9 \times 10$ .
- 2  $216 = 2.16 \times 10^2$  (Qormo saynis)
- 3  $2192 = 2.192 \times 10^3$  (Qormo saynis)
- 4  $960 = 9.6 \times 10^2$  (Qormo saynis)

### Laylis 3.9

1 Xisaabi kuwan soo socda

**b**  $\frac{1}{5} \div \frac{3}{10}$

**t**  $\frac{3}{4} \div \frac{1}{3}$

**j**  $\frac{3}{4} \div \frac{1}{6}$

**x**  $2 \div 2\frac{1}{3}$

**kh**  $3\frac{1}{2} \div \frac{1}{3}$

**d**  $\frac{7}{10} \div \frac{3}{20}$

2 Xisaabi kuwan soo socda

**b**  $2.3 \div 10$

**t**  $3.6 \div 100$

**j**  $9.6 \div 0.96$

**x**  $3.2 \div 4$

**kh**  $0.354 \div 5.004$

**d**  $0.042 \div 6$

**r**  $52.5 \div 5.5$



**3** Xisaabi kuwan soo socda

**b**  $0.4 \div \frac{1}{4}$

**t**  $\frac{1}{2} \div \frac{3}{5}$

**j**  $\frac{4}{7} \div \frac{16}{21}$

**x**  $5 \div 2.3$

**kh**  $1.25 \div 0.05$

**d**  $0.25 \div 0.75$

**r**  $10 \div \frac{1}{5}$

**s**  $\frac{4}{5} \div \frac{2}{5}$

**sh**  $\frac{2}{3} \div \frac{16}{24}$

**4** U qor tirooyinka soo socda qormo saynis

**b** 35

**t** 105

**j** 2005

**x** 191

**kh** 8900

**Hubin**

Boqolkiiba

Horsanaanta jajabyada/  
jajabtobanleyaashaHorsanaanta siday u kala yar-  
yihiin jajab

Isku dhufashada jajabyada

Isugeynt jajabtobanleyaasha

Isuqeybinta jajabyada

Jajab maqumane

Jajab tobanle

Kala goynta jajabka

Ku soo ururinta barta  
jajabtobanlaha

Tiro dhafan

U bedelida jajabka boqolkiiba

U bedelida jajabtobanlaha

Heerka u hooseeya ee jajabka

Horsanaanta sida u kala  
waaweyn yihiinIsbarbar-dhiga  
jajabyada/jajabtobanleyaashaIsku-dhufashada  
jajabtobanleyaasha

Isugeynta jajabyada

jajab

Jajab qumane

Jajab tobanlaha dhammaada

Kalagoyna jajabtobanleyaasha

Qormo-saynis

U bedelida boqolkiiba jajab

U bedelida jajabka jajabtobanle



### Soo Koobidda Cutubka

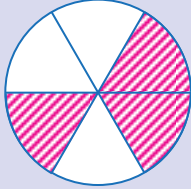
- 1 Jajabka waxaa lagugu siin karaa jajab qumane, ma-qumane ama tiro dhafan.
- 2 Jajabka  $\frac{b}{t}$  waxaa la yidhaa wuxuu u qoran yahay heerkiisii ugu hooseeyey haddii IWW  $(b, t) = 1$
- 3 IWW sareeyadaha iyo hooseeyaha jajabka waxaa loo isticmaalaa siloogu fududeeyo heerkiisa ugu hooseeya.
- 4 Boqolaydu waa jajab hooseeyihiisu yahay 100.
- 5 Jajabka  $\frac{b}{t}$  wuxuu ku siiyaa jajabtobanle dhammaada, marka qeybinta dheeri ay ku siiso barta jajabtobanlaha dabadeed tiro god oo go'an.
- 6 Jajabka  $\frac{b}{t}$  wuxuu ku siiyaa jajabtobanle aan dhammaan, marka qeybta dheeri ku siiso tirooyinka godadka oo aan dhammaan barta jajabtobanlaha dabadeed
- 7
 

i $\frac{b}{t} + \frac{j}{t} = \frac{b+j}{t}$	ii $\frac{b}{t} + \frac{j}{x} = \frac{b \times x + t \times j}{t \times x}$
iii $\frac{b}{t} - \frac{j}{x} = \frac{bx - tj}{tx} (bx > tj)$	iv $\frac{b}{t} \times \frac{j}{x} = \frac{b \times j}{t \times x}$
v $\frac{b}{t} \div \frac{j}{x} = \frac{b}{t} \times \frac{x}{j}$	vi $\frac{b}{t} - \frac{j}{t} = \frac{b-j}{t} (b > j)$
- 8 isku-dhufashada iyo isuqeybinta jajabtobaleyaasha waxaa looga shaqayn kara ayadoo marka hore loo bedelayo jajabyo u dhigma.
- 9 Markaan leenahay  $b$  ee  $t$  erayga "ee" waxaa loo isticmaalaa isku-dhufasho sida: waxaan u jeednaa  $b \times t$ .
- 10 U qorida loo qoro tiro qormo saynis waxaan u jeednaa, u qorida tiro loo qoro taranta jajab tobanle iyo jibbaarada 10 kaasoo jajabtoanlaha ay ka horeyso barta jajabtobanlaha hal-tiro oo aan ahayn eber.

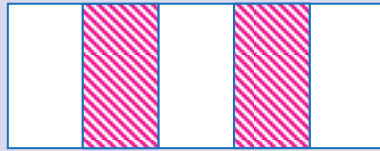
### ? Layliska Nakhtiinka ee Cutubkaa 3<sup>aad</sup>

1 Jajab intee ah ayaa hadhysan shaxanka?

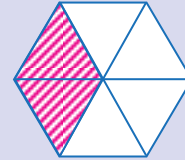
b



t



j



2 U fududee jababyada soo socda tibixda ugu yar.

b	$\frac{18}{10}$	t	$\frac{24}{42}$	j	$\frac{9}{36}$	x	$\frac{55}{77}$
kh	$\frac{21}{28}$	d	$\frac{48}{84}$	r	$\frac{18}{20}$		

3 Jajabyada soo socda kuwee ah tibix – hooseed

b	$\frac{15}{20}$	t	$\frac{6}{9}$	j	$\frac{1}{3}$	x	$\frac{13}{24}$
kh	$\frac{64}{72}$	d	$\frac{14}{15}$	r	$\frac{9}{100}$	sh	$\frac{5}{6}$

4 Minguuri oo dhamaystir tusaha hoose

	b	t	j	x	kh	d	r	s	sh	dh	c
Jabjab tobanle	0.2		0.51		0.85		0.35				0.375
Jabjab		$\frac{2}{5}$		$\frac{13}{4}$		$\frac{2}{25}$			$\frac{5}{8}$		
Boqolley	20%							12.5%		100%	

5 Jajabyada soo socda u bedel jajab tobanle

b	$\frac{1}{10}$	t	$\frac{8}{10}$	j	$\frac{4}{10}$	x	$\frac{3}{5}$
kh	$\frac{19}{20}$	d	$\frac{3}{50}$	r	$\frac{39}{50}$	s	$\frac{17}{25}$

6 Boqolleyda soo socda ubedel jajabyo

b	15.5%	t	7.5%	j	0.5%	x	17.3%
kh	45%	d	0.05%				

**7** Jajabyada soo socda ubedel boqolley

<b>b</b>	$\frac{19}{100}$	<b>t</b>	$\frac{43}{100}$	<b>j</b>	$\frac{7}{10}$
<b>x</b>	$\frac{19}{25}$	<b>kh</b>	$\frac{7}{20}$		

**8** Jajabyada soo socda u habee horsanaanta yaraanta

<b>b</b>	$\frac{1}{2}, \frac{1}{4}, \frac{3}{4}, \frac{2}{3}$	<b>t</b>	$\frac{1}{2}, \frac{4}{7}, \frac{5}{8}, \frac{3}{4}$
<b>j</b>	$\frac{7}{10}, \frac{5}{6}, \frac{7}{9}, \frac{3}{4}$	<b>x</b>	$\frac{9}{25}, \frac{7}{20}, \frac{1}{4}$

**9** Jajabyada soo socda u habee Horsanaanta korodhka

<b>b</b>	$\frac{1}{2}, \frac{2}{5}, \frac{7}{10}, \frac{4}{5}$	<b>t</b>	$\frac{1}{2}, \frac{5}{8}, \frac{3}{4}, \frac{3}{5}$	<b>j</b>	$\frac{1}{2}, \frac{7}{12}, \frac{4}{6}, \frac{9}{20}$
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**10** Qiimee kuwa soo socda

<b>b</b>	$1\frac{1}{2} + \frac{4}{9}$	<b>t</b>	$2 + \frac{5}{8} + \frac{7}{8}$	<b>j</b>	$\frac{1}{4} + \frac{1}{3} + \frac{1}{2}$
<b>x</b>	$3\frac{2}{3} - 1\frac{3}{4}$	<b>kh</b>	$\frac{3}{4} - \frac{1}{4}$	<b>d</b>	$\frac{3}{4} - \frac{3}{8}$
<b>r</b>	$\frac{7}{10} - \frac{3}{5}$	<b>s</b>	$\frac{3}{4} \times \frac{5}{5}$	<b>sh</b>	$\frac{7}{6} \times \frac{2}{5}$
<b>dh</b>	$\frac{3}{5} \times \frac{25}{6}$	<b>c</b>	$\frac{2}{3} \times \frac{6}{5} \times \frac{15}{2}$	<b>g</b>	$1.27 + 5.063$
<b>f</b>	$4.5 + 1.83$	<b>q</b>	$0.009 + 0.435$	<b>k</b>	$5.063 - 1.27$
<b>l</b>	$4.5 - 1.83$	<b>m</b>	$1 - 0.999$	<b>n</b>	$6.3 \times 0.9$
<b>w</b>	$0.04 \times 0.004$	<b>h</b>	$0.4 \times 0.3 \times 0.028$		

**11** Dhamasytir jog u tax kasta, jiif utax iyo xagalgooyaha laydiga waa inay wadartooda isku mid noqoto.

$3\frac{1}{2}$		
	s	3
		$6\frac{1}{2}$