

To be completed by candidate

NSN

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School Code

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See back cover for an English translation of this cover

32406N KUATA 4

Hihika e puha (☒) kaeke kua NAKAI tohitohi a koe i loto he pepa nei

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Mana Tohu Mātauranga o Aotearoa  
New Zealand Qualifications Authority

## Numela 2023

**32406N Fakaaoga e numela mo e totou numela ke moua e tau manako numela he tau magaaho kehekehe**

Tau ola: Hogofulu

TAU HAOAGA	
1	Talaga e tau puhala ke he tau numela mo e totouaga he tau numela ke moua e tali ke he tau lekua ke he tau magaaho kehekehe kua fai kakano.
2	Fakaaoga e tau puhala ke he tau numela mo e totouaga he tau numela ke maeke ke moua e tau manako fakanumela mai he tau magaaho kehekehe kua fai kakano.
3	Fakamaama mai e fakakakanoaga he tau numela mo e totouaga he tau numela kua moua ai ha ko e tauiaaga ke he tau mena tutupu.

Tuku haau a National Student Number (NSN) poke Fakamailoga Aoga ki loto he puha i luga he laupepa nei.

**Kua lata ia koe ke lali atu ke he tau hūhū OTI i loto he pepa nei.**

Tali oti e tau vala he tau hūhū taki taha mo e fakapuke e tau vala atā poke fifili (✓) e tali kua hako.

Kaeke kua manako foki ia koe ke moua taha vala atā foki ke lata mo e ha tali foki, fakaaoga e vala atā ne kua toka atu i tua he pepa nei.

Fakakia ke he pepa nei kua hahā i ai nakai e tau laupepa 2–35 mo e kua hako e ota ne toka ai mo e kua nakai fai laupepa ne nakai fai mena ne tohi ai.

Aua ia neke tohitohi ai ki loto he tau vala ne kua hihika aki e tau laini/cross-hatched area (☒).

To hehele kehe e vala nei ke he magaaho ka maaka ai e pepa nei.

**KUA LATA IA KOE KE TUKU ATU E PEPA NEI KE HE TAGATA NE LEVEKI KE HE FAKAOTIAGA HE TIVIAGA NEI.**

## HŪHŪ FAKAMUA: Fakaholoaga ke he fenoga he Pasifika

Ko e tau tagata Maui ne fenoga mai he tau motu tuga a Tahiti mo e nonofo ai ki Aotealoa Niu Silani.

O mai a lautolu he tau waka hourua ko e tau vaka lalahi ne ua e tino vaka.

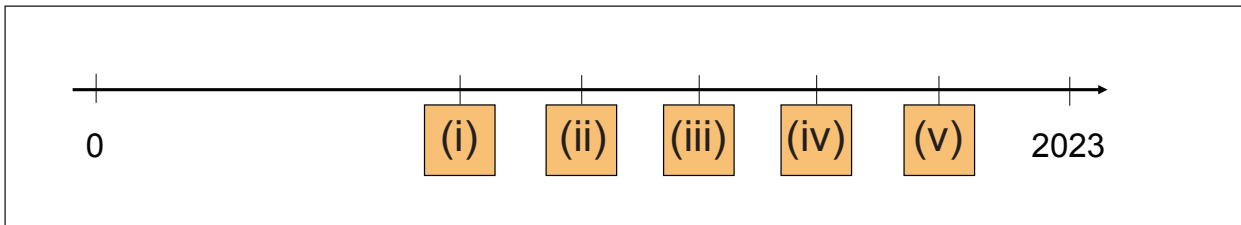


(a) Fifili (✓) ko e fakatokaaga he puhula he kamupasi ma e fenoga mai i Tahiti ki Aotealoa Niu Silani:

- Faahi Lalo   
  Faahi Toga   
  Faahi Toga ki uta   
  Faahi Tokelau ki lalo   
  Faahi Tonga ki lalo

Ko e tau nei ko e tau 2023. Ne hohoko mai e tau tagata Maui ki Aotealoa Niu Silani he tau 1250.

Ko e kavi ke he 800 he tau kua mole.



(b) Fifili (✓) e tali ne kua fakamailoga ai ko e mena fē tonu ne kua toka ai e 1250 he laani ne toka e taimi:

- (i)   
  (ii)   
  (iii)   
  (iv)   
  (v)

## QUESTION ONE: Navigating the Pacific

Māori sailed from places like Tahiti to settle in Aotearoa New Zealand.

They came in waka hourua which are large canoes with twin hulls.

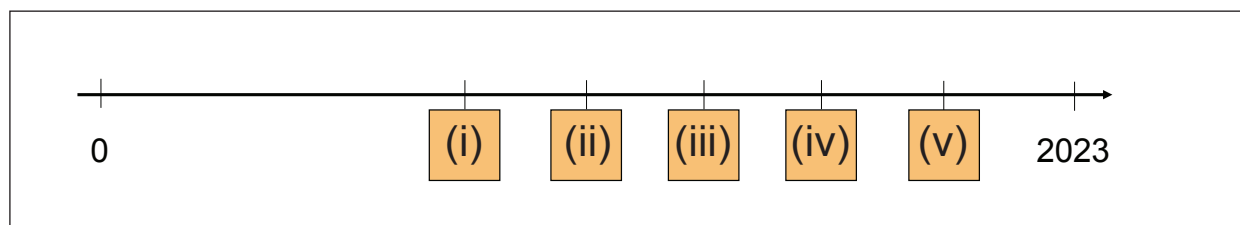


(a) Select (✓) the compass direction of the trip from Tahiti to Aotearoa New Zealand:

- West     
  South     
  South-east     
  North-west     
  South-west

This year it is 2023. Māori arrived in Aotearoa New Zealand around the year 1250.

That is almost 800 years ago.



(b) Select (✓) the answer that marks where 1250 would be on the timeline:

- (i)     
  (ii)     
  (iii)     
  (iv)     
  (v)

Vaka mo e waka ko e tau kupu Polonesia hanei ke lata mo e posi.

Ko e vaka 22 e mita he loa. Ko e vaka tose 3.6 e mita he loa.



Vaka (waka)



Ko e vaka tose

(c) Ko e fiha e loa he vaka he fakatatai atu ke he vaka tose?

\_\_\_\_\_ lahi he loa

Ko e mepe nei kua fakakite ai e hala ne kua fano ai e vaka he fenoga mai i Okalana ki Hawai'i.



(d) Fakaaoga e fua he mepe, ko e esitameti fē kua tata ke he mamao he fenoga katoa?

- 5,000 km   
  7,000 km   
  9,000 km   
  11,000 km   
  13,000 km

Vaka and waka are Polynesian words for boat.

A vaka is 22 metres long. A small outrigger canoe is 3.6 metres long.



Vaka (waka)



Small outrigger canoe

- (c) How many times longer is the vaka than the small outrigger canoe?

\_\_\_\_\_ times longer

This map shows the route taken by a vaka on a journey from Auckland to Hawai'i.



- (d) Using the scale on the map, which of the following estimates is closest to the total distance of the trip?

5,000 km

7,000 km

9,000 km

11,000 km

13,000 km

Ulu e vaka ke he faahi tokelau.



Fitu e motu ikiiki ne viko takai he vaka

(e) Ko e motu fē kua haga e vaka ki ai kaeke kua fuluhi ai  $135^\circ$  he hala ne holo e tau lima tulā mo e nakai holo atu ki mua? Fifili (✓) haau a tau hūhū mai he tau fifiliaga na i lalo.

- |                       |                       |                       |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| A                     | B                     | C                     | D                     | E                     | F                     | G                     |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Uku hifo a Hine ma e tau kōura (uo) he toka. Ko e toka he tahi 17 e mita i lalo he levolo he puke tahi.

(f) Fiha e mita i lalo he puke tahi kua nofo ai a Hine ke he magaaho kua hake mai a ia 8 e mita he toka? Tohi haau a tali ke he numela nekativi. Ko e fakatai, -ko e kakano he 2 ko e 2 e mita i lalo he levolo he puke tahi:

\_\_\_\_\_ mita

The vaka is facing north.



Vaka surrounded by seven small islands

- (e) Which island does the vaka face if it turns  $135^\circ$  clockwise without moving forward?  
Select (✓) your answer from the choices below.

A



B



C



D



E



F



G

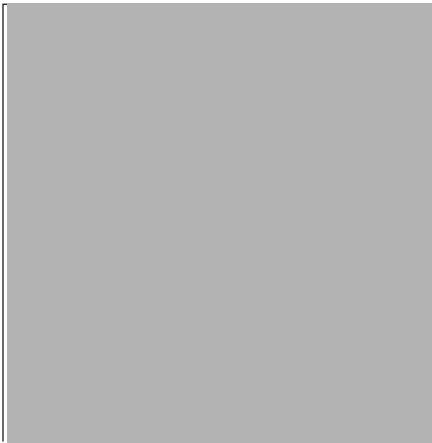


Hine dives for kōura (crayfish) on the sea floor. The sea floor is 17 metres below sea level.

- (f) How many metres below sea level is Hine after she rises 8 metres from the sea floor?  
Write your answer as a negative number. For example,  $-2$  means 2 metres below sea level:

\_\_\_\_\_ metres

Tolu e vakalele kua ō kehe mai mo e malē vakalele ha Okalana. Ko e talahauaga ha Olioli ka fakatatai e tau magaaho kua lele ai ki Fiti mo Niue, loa lahi e fenoga ki Tonga.



Motu ka fenoga ki ai	Fakatoka (tulā NZ)	Hoko ki ai (tulā NZ)
Nadi (Fiti)	09:55	13:00
Nuku'alofa (Tonga)	11:25	14:15
Alofi (Niue)	08:15	11:45

(g) Hako nakai a Olioli? Fakaaoga e taimi ke fakamaama aki haau a tali.

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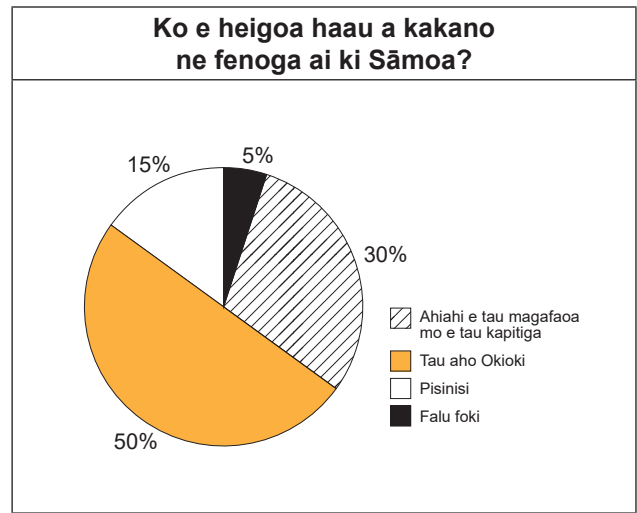
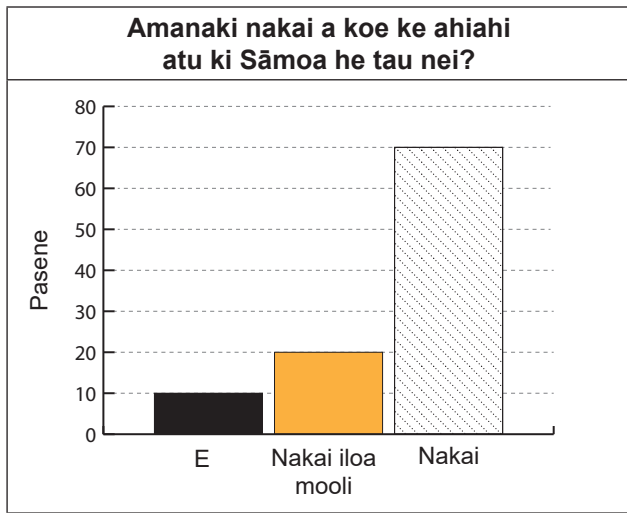
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Kua ole atu ai ke he 1000 he tau tagata Niu Silani, “Amanaki nakai a koe ke ahiahi atu ki Sāmoa he tau nei?” Kua hūhū atu ke he tau tagata ne kua tali “E”, “Ko e heigoa e kakano kua fenoga ki Sāmoa?”

Kua fakakite he tau fakatino nei e tau numela.



(h) Fifili (✓) e tau talahauaga oti ne kua mooli **hagaao ia ke he tau tagata Niu Silani ne 1000**. Molea e taha e tali.

- 10% he tau tagata ne kua amanaki ke ahiahi atu ki Sāmoa he tau nei.
- 200 he tau tagata kua nakai iloa mooli poke o atu nakai a lautolu ki Sāmoa he tau nei.
- 500 he tau tagata kua manako ke ahiahi atu ki Sāmoa ke okioki ki ai.
- Hagaao ia ke he  $\frac{1}{3}$  he tau tagata ne kua amanaki ke ahiahi atu ki Samoa he tau nei kua o atu ke ahiahi ke he ha lautolu a tau magafaoa mo e tau kapitiga.



Three flights leave from Auckland airport. Olioli claims that compared to flight times to Fiji and Niue, the flight to Tonga takes the longest.



Destination	Leave (NZ time)	Arrive (NZ time)
Nadi (Fiji)	09:55	13:00
Nuku'alofa (Tonga)	11:25	14:15
Alofi (Niue)	08:15	11:45

(g) Is Olioli right? Use times to explain your answer.

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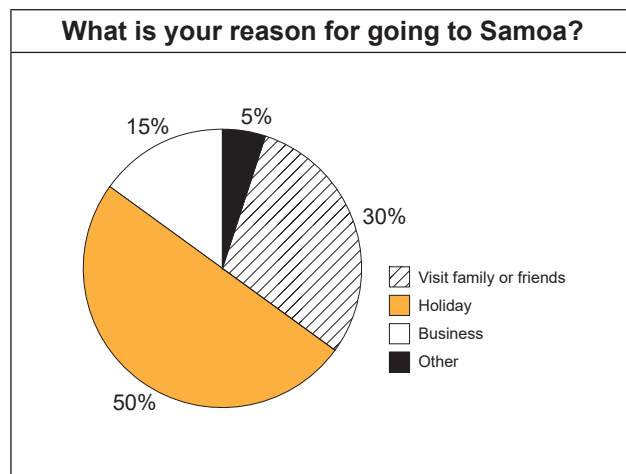
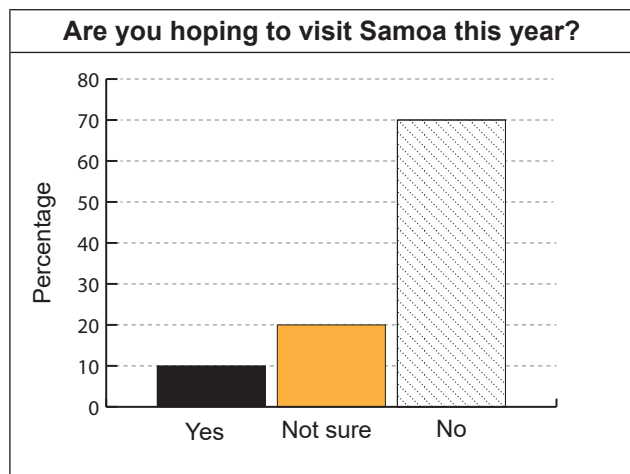
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1000 New Zealanders were asked, “Are you hoping to visit Samoa this year?” The people who said “Yes” were asked, “What is your reason for going to Samoa?”

These graphs show the data.



(h) Select (✓) all the statements that are true about the 1000 New Zealanders. There is more than one answer.

- 10% of the people were hoping to visit Samoa this year.
- 200 people were not sure if they would visit Samoa this year.
- 500 people were hoping to visit Samoa to have a holiday.
- About  $\frac{1}{3}$  of the people hoping to visit Samoa this year were going to visit family or friends.

## HŪHŪ KE UA: Paseketepolo

Hanai taha fakatino he pā pele paseketepolo ne fuafua ke he 15 e mita he laulahi ke he 28 e mita he loa.

- (a) Ko e heigoa e lahi he pā pele paseketepolo ke he mita pakafā?

\_\_\_\_\_ m<sup>2</sup>



Hanai e tau tagata pelē he matakau paseketepolo. Ko e ha lautolu a tau loloa kua tuku atu he mita.

<b>Nia</b> 1.57 m	<b>Ani</b> 1.6 m	<b>Kendra</b> 1.94 m	<b>Sue</b> 1.7 m	<b>Mere</b> 1.78 m	<b>Lucy</b> 1.8 m	<b>Tania</b> 1.61 m	<b>Sina</b> 2.01 m	

- (b) Ko hai e tau tagata pelē ne ua ne kua lata ke hiki e tau tutūaga ke maeke ke tutū fakapapahi, mai ia lautolu ne kū kia lautolu ne loloa?

\_\_\_\_\_ mo \_\_\_\_\_

Ko e pelē basketball 40 e miniti he loa. Kua manako he tagata fakaako kia lautolu e tau tagata pelē ne 8 ke tatai oti e tau magaaho pelē ha lautolu ki loto he pā pelē ka e 5 ni e tagata pelē ne maeke ke he taha e magaaho.

Kua manatu he tagata fakaako kua moua he tagata pelē 30 e miniti ki loto he pā pelē.



- (c) Hako nakai a ia? Fakaaoga e tau puhala numela ke fakamaama aki haau a tali.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## QUESTION TWO: Basketball

Here is a diagram of a basketball court that measures 15 metres in width and 28 metres in length.



- (a) What is the area of the basketball court in square metres?

\_\_\_\_\_ m<sup>2</sup>

Here are the players in a basketball team. Their heights are given in metres.

<b>Nia</b> 1.57 m	<b>Ani</b> 1.6 m	<b>Kendra</b> 1.94 m	<b>Sue</b> 1.7 m	<b>Mere</b> 1.78 m	<b>Lucy</b> 1.8 m	<b>Tania</b> 1.61 m	<b>Sina</b> 2.01 m

- (b) Which two players need to swap places so that the heights are in order, shortest to tallest?

\_\_\_\_\_ and \_\_\_\_\_

A game of basketball is 40 minutes long. The coach wants all 8 players to get equal time on court, but only 5 players can be on at one time.

The coach thinks that each player should get 30 minutes on the court.



- (c) Is he right? Use calculations to justify your answer.

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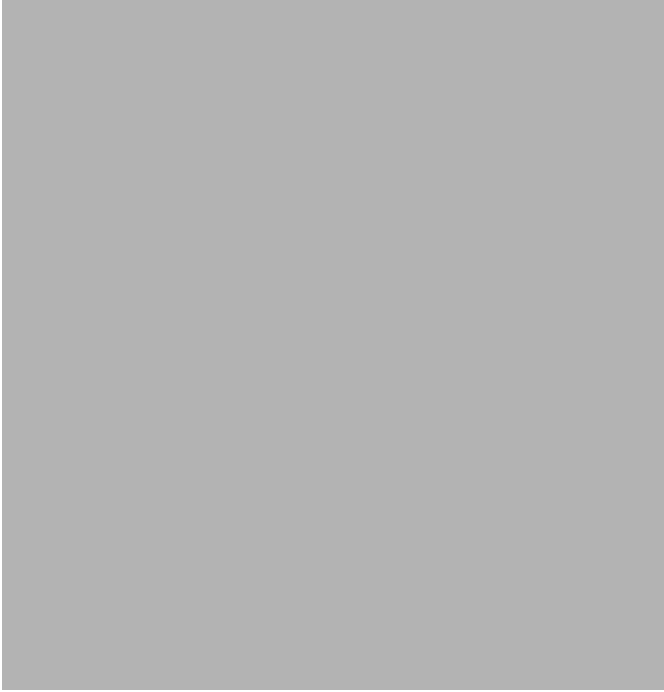
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Ko e enekolo kua mua atu e mitaki ke lata mo e liti hopo ko e 48°.

(d) Ki loto he fakatino na i lalo, fakaveliveli  e **mata tao** ne kua tata atu ke he enekolo nei.



Kua pelē paseketepolo a Lucy.

Putoia ai oti e tau kemi kua pelē a ia ki ai, ko e avalisi he kautū ma e tau liti noa ko e 50%.

Kua uta ai e Lucy ua e liti noa, taha ti mui mai taha foki. Kua iloa e ia to hū taha he haana a tau liti ki loto.

Ko Lucy ne taute e liti noa

(e) Hako nakai a ia he manatu e koe? Fakamaama haa a tali mo e fakaaoga e tau manatu haaoga ia ke he tiana.

Four horizontal lines for writing the answer to question (e).

Vertical text on the right edge of the page, likely a scanning artifact or bleed-through from the reverse side. It contains repetitive phrases such as "DO NOT WRITE IN THIS AREA" and "DO NOT WRITE".

The best angle for a jump shot is  $48^\circ$ .

- (d) In the image below, circle  the **arrowhead** that is closest to that angle.



Lucy plays basketball.

Including all games she has played, her average success rate for free throws is 50%.

Lucy is taking two free throws, one after the other. She is very confident that one of her shots will go in.



Lucy taking a free throw

- (e) Do you think she is right? Explain your answer using ideas about chance.

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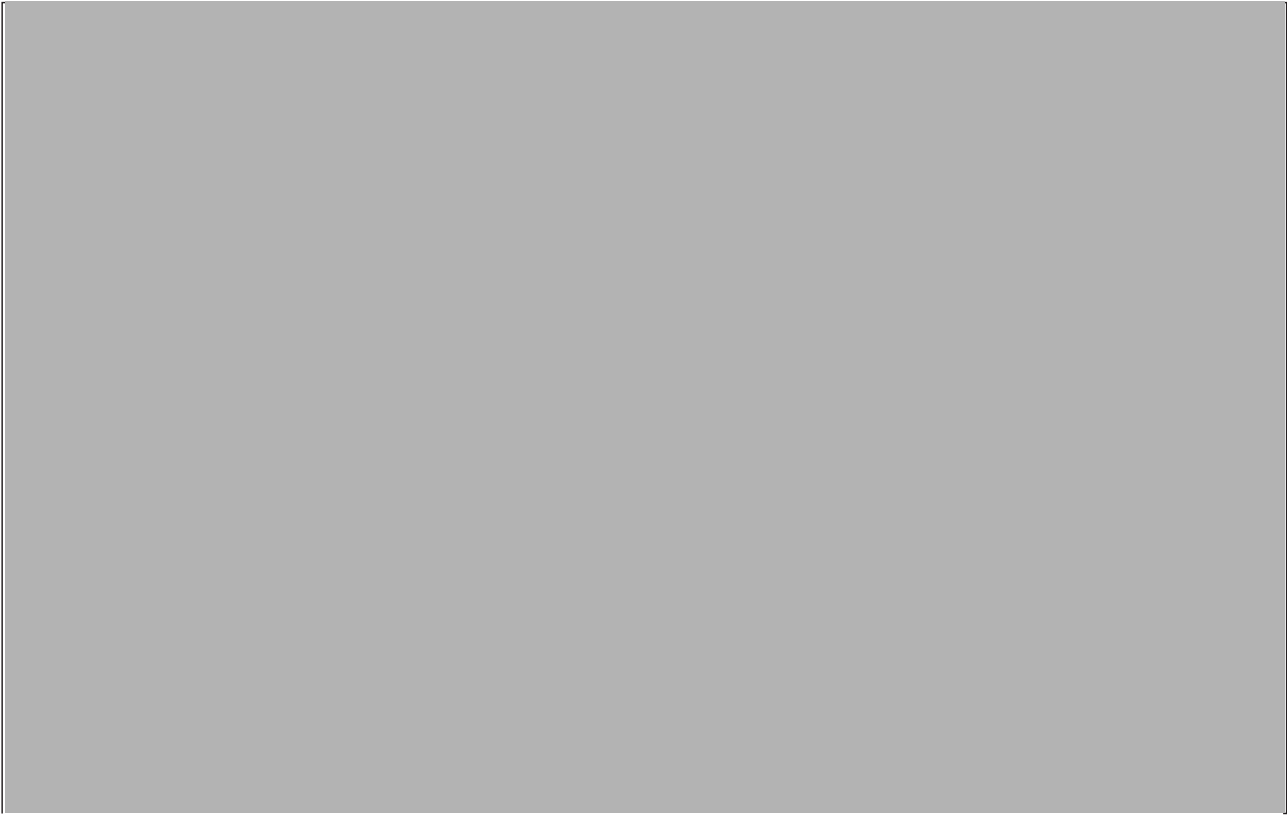


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Kua fakakite ai he kulefe e tau sipote kua manako lahi ki ai e tau fanau aoga i Aotealoa Niu Silani he tau 2022.



(f) Ko e heigoa e totouaga he numela katoa he tau taane mo e tau fifine ne pelē paseketepolo he tau 2022?

\_\_\_\_\_

The graph shows the most popular sports among students in Aotearoa New Zealand in 2022.



- (f) What was the approximate total number of boys and girls playing basketball in 2022?

\_\_\_\_\_

**HŪHŪ KE TOLU: *Hifi ke moua e Maulu***

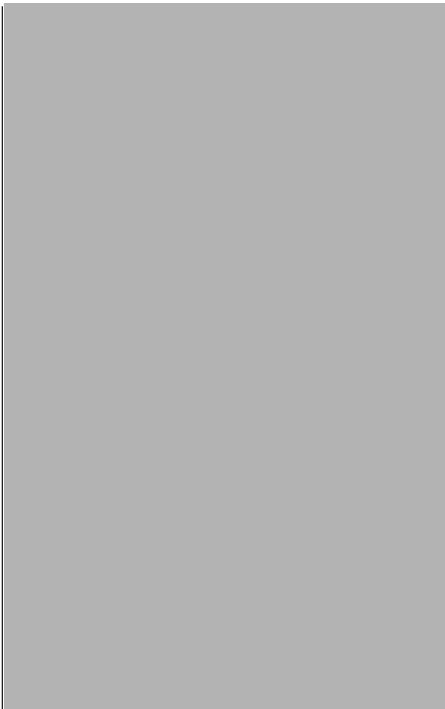
Kua hifi kila ai e ulu ha Mia mo atitupe ke lata mo e tau matakau charity.

Ko e haana a loa ko e 1.72 e mita.

Ko e mamao mai he haana ulu ke he kelekele ko e 89 e senetimita.

(a) Fia e mita he loa he ulu ha Mia?

\_\_\_\_\_ m



Mia

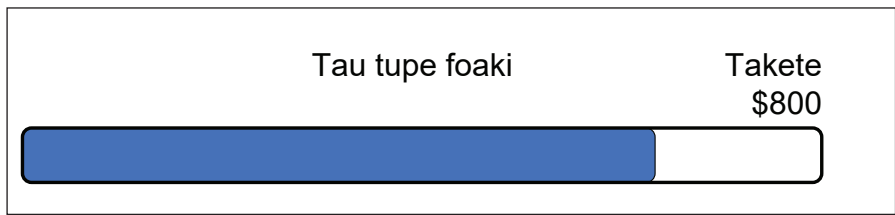
Hanei tolu e vahega fifiliaga ke foaki ke he *Hifi ke moua e Maulu*.



(b) Ko e fiha e tupe foaki ma e *Peleoafi ke taatu ke he falegagao* ka atihake ke tatai e tupe foaki ma e 10 e *Tagata lagomatai*?

\_\_\_\_\_

Ko e poloka kua fakakite ai e tau tupe foaki kua moua ai e Mia.



(c) Kavi ke he fiha e foaki kua moua e Mia mai he tau tupe foaki?

\$ \_\_\_\_\_



**QUESTION THREE: *Shave for a Cure***

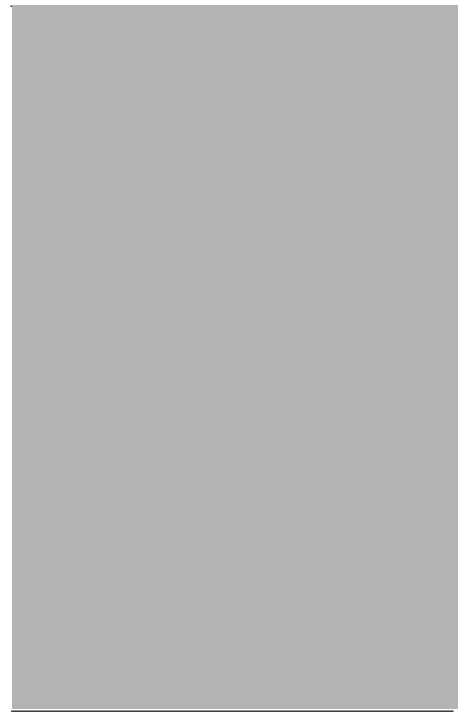
Mia is shaving her hair to raise money for charity.

She is 1.72 metres tall.

The distance from her hair to the ground is 89 centimetres.

- (a) What is the length of Mia's hair in metres?

\_\_\_\_\_ m



Mia

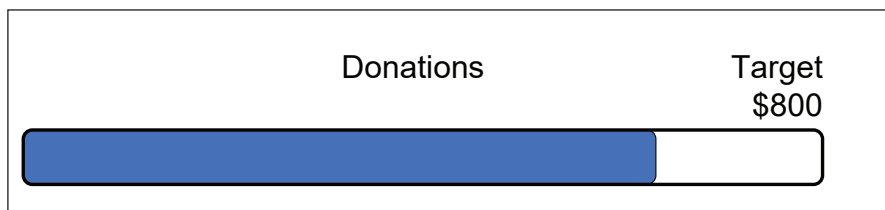
Here are three options for donating to *Shave for a Cure*.



- (b) How many *Transport to the hospital* donations will raise the same amount as 10 *Support person* donations?

\_\_\_\_\_

This bar shows the donations that Mia has received.

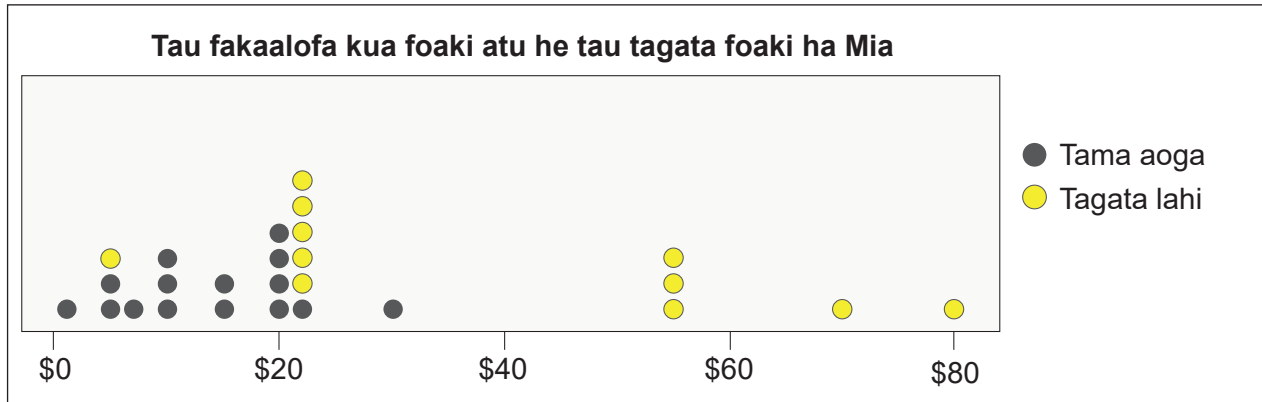


- (c) About how much has Mia received in donations?

\$ \_\_\_\_\_

Kua fakakite he kulefe e lahi he tau fakaalofa kua foaki atu he tau tagata foaki ha Mia.

Kehekehe e tau lanu kua fakakite aki e tau foaki mai he tau tama aoga mo e tau tagata lalahi.



(d) Kua fēfē e kehe he tau foaki kua tuku ai he tau fanau aoga mai he tau foaki he tau tagata lalahi? Fakaaoga e tau numela he tau kulefe ke lagomatai aki haau a tali.

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Maeke ia Mia ke sela haana a tau lauulu ke he feketulī talaga wiki.

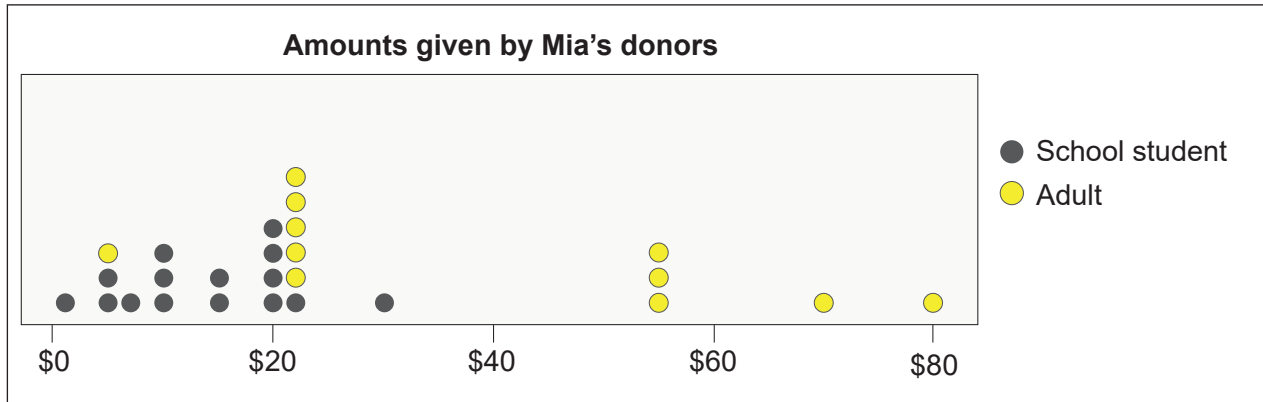


(e) Kaeke kua sela e Mia 70 e senetimita he haana lauulu, fiha e tupe ka moua e ia?

\$ \_\_\_\_\_

The graph shows the amounts given by Mia's donors.

The amounts for school students and adults are shown in different colours.



- (d) How are the amounts donated by school students different from the amounts donated by adults? Use numbers from the graph to support your answer.

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Mia can sell her hair to a wig factory.



- (e) If Mia sells 70 centimetres of her hair, how much money will she make?

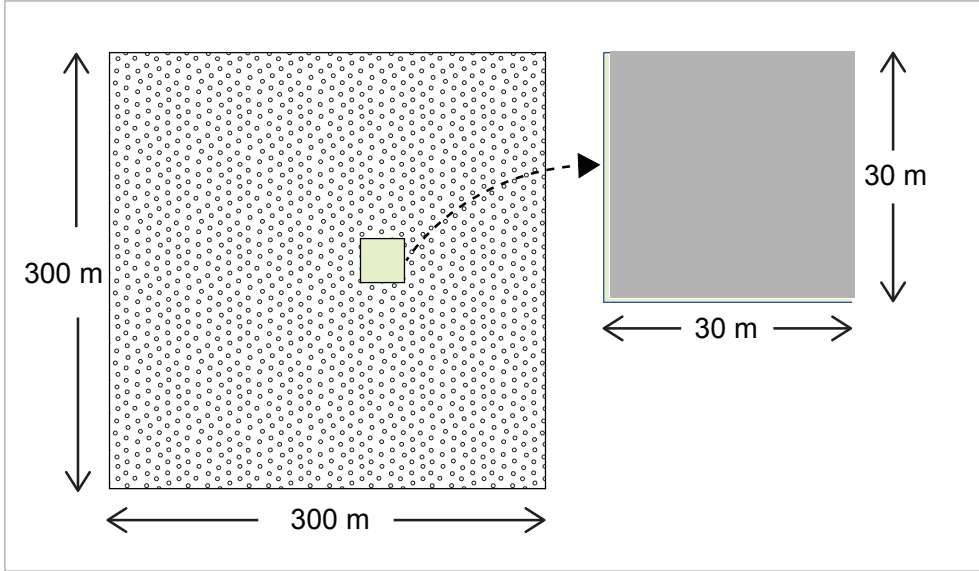
\$ \_\_\_\_\_

**HŪHŪ KE FA: Tau Povi**

Ko e lahi he fonua he faama kua tototu ai 300 mita ke he 300 e mita.

Ke he vala he fonua ne 30 mita ke he 30 e mita 5 e povi ne toka ai.

Kua tatai e vehā mamao he tau povi he fonua.



(a) Esitameti ko e fiha e povi ne toka i loto he fonua katoa:

\_\_\_\_\_ tau povi

Hanei e taha ata kia Daisy.



(b) Kua kitia e Daisy haana fakaatā he vai.

Mai ia he tau vahega fifiliaga na i lalo, fifili (✓) e fakatino ne fakakite haana a fakaata ne kua kitia e Daisy.

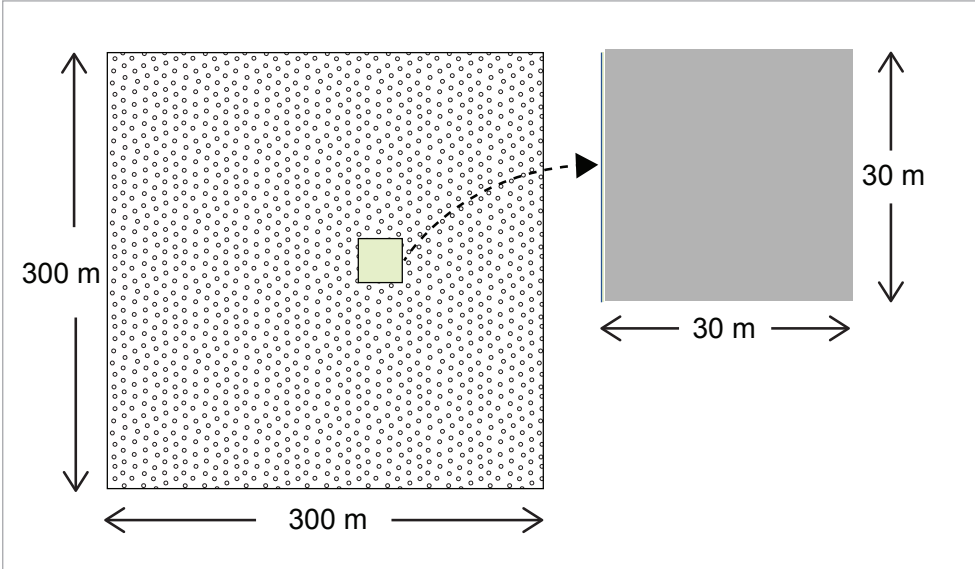


**QUESTION FOUR: Cows**

The farmer's field measures 300 metres by 300 metres.

In a 30 metre by 30 metre section there are 5 cows.

The cows are evenly spread throughout the field.



(a) Estimate how many cows there are in the whole field:

\_\_\_\_\_ cows

Here is a picture of Daisy.



(b) Daisy sees her reflection in the water.

From the options below, select (✓) the picture that shows the reflection that Daisy sees.



- 
- 
- 
-

He avalisi, 12,000 e sitepe ne laka ai e povi he taha e aho. Kua fuafua ke he 1.6 e mita he taha e sitepe.

Ko e talahauaga he faama ko e tau povi haana kua laka ai 20 e kilomita he taha e aho.



(c) Hako nakai haana talahauaga? Tohi e taha fakaholoaga numela ne lagomatai atu ke he haau a tali.

Three horizontal lines for writing the answer to question (c).

Ko e povi ko, Mooloo, kua talaga ai e ia 35 e lita huhu he aho.

Fakaaoga ai e magafaoa 3 e lita huhu he 2 e aho.



(d) Kavi ke he fiha e aho kua maeke he magafaoa nei ke fakaaoga e 35 e lita huhu?

\_\_\_\_\_ e aho

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On average, a dairy cow walks about 12,000 steps per day. Each step measures about 1.6 metres.

A farmer claims that each of her dairy cows walks 20 km per day.



- (c) Is her claim reasonable? Write a calculation that supports your answer.

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Mooloo, a cow, produces about 35 litres of milk per day.

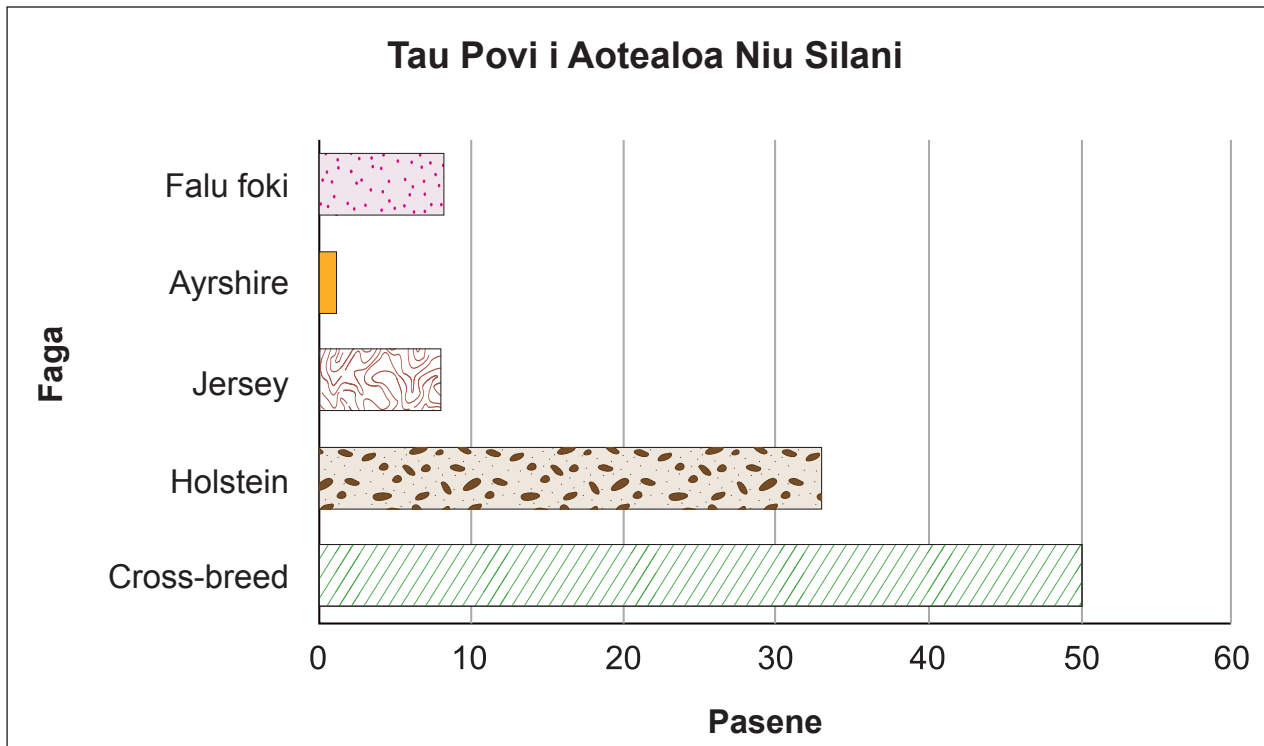
A family uses 3 litres of milk every 2 days.



- (d) Approximately how many days will 35 litres of milk last that family?

\_\_\_\_\_ days

Kavi ke he 6 e miliona he tau povi i Aotealoa Niu Silani.



(e) Onoono atu ke he kulefe na i luga, kavi ke he **fiha e** povi i Aotealoa Niu Silani ko e tau povi Jersey?

\_\_\_\_\_ Tau povi Jersey

Ko e katoa he tau povi he faama ko e 300 e povi Holstein mo e 200 e povi Jersey.

Nakai fai petene ke he puhala kua hohoko atu e tau povi ke fakahuu.



(f) Pehe mai e faama kavi ke he 60% e tiana he povi fakamua ka hoko atu ko e povi Holestein. Hako nakai a ia?

Fakaaoga e tau fraction poke tesimolo ke fakamaama haau a tali.

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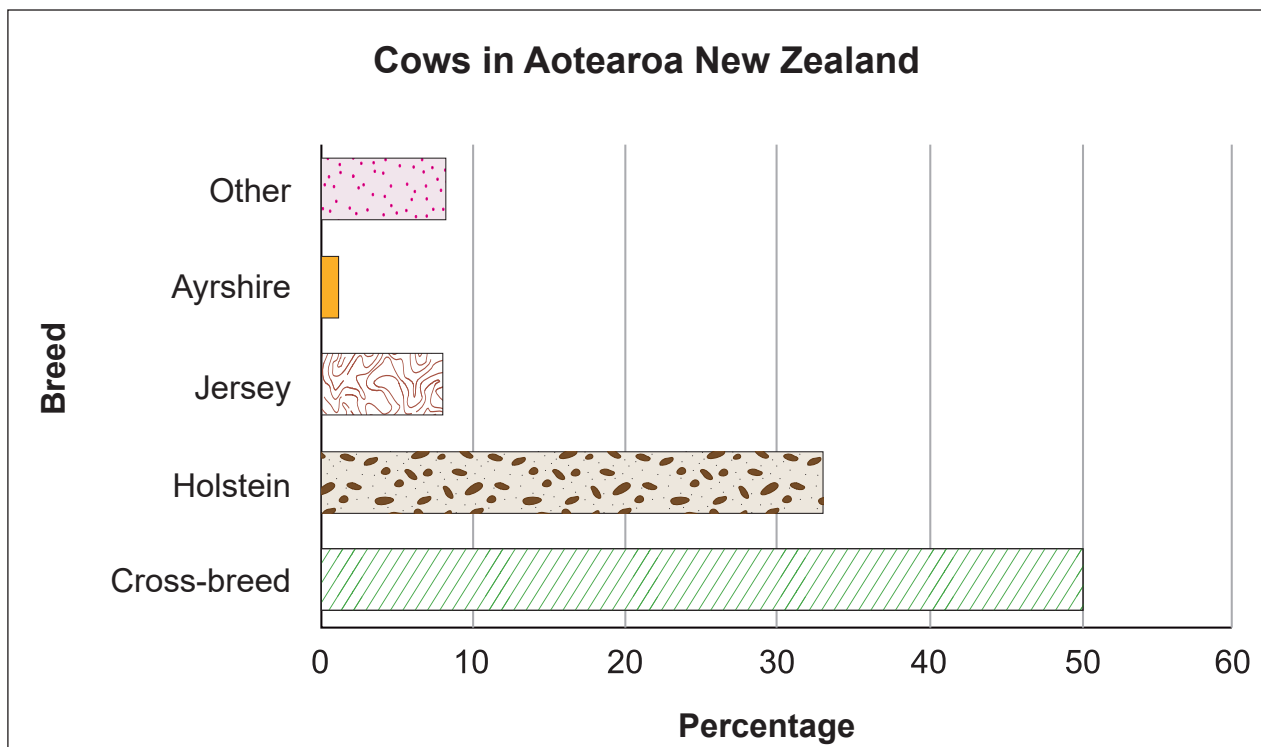
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There are about 6 million cows in Aotearoa New Zealand.



- (e) Looking at the graph above, about **how many** cows in Aotearoa New Zealand are Jersey cows?

\_\_\_\_\_ Jersey cows

The farmer's herd has 300 Holstein cows and 200 Jersey cows.

There is no pattern to which cow turns up first to be milked.

- (f) The farmer says that there is a 60% chance that the first cow is a Holstein. Is she right?

Use fractions or decimals to explain your answer.

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### HŪHŪ KE LIMA: Taimi ke vili

Ko e viliaga kua maeke ke moua e tau tagata poke tau matakau ne maeke ke nonofo ki loto he fono ekepule.

Ko e tau viliaga i loto ha Aotealoa Niu Silani kua fakahoko ai lagataha he 3 e tau.

Ko e tau 2023 ko e tau ma e viliaga.



Tau fale Palimene, Ueligitoni

(a) Ko e tau vili nakai e tau 1987? Fakakite ai e puhala kua fakaaoga e koe ke moua e tali ke he hūhū nei.

Three horizontal lines for writing the answer to question (a).

Ko e 72 e matakavi vili i Aotealoa Niu Silani. Putoia ai e 7 e matakavi vili ma e tau Maui.

Kavi ke he 3,900,000 he tau tagata ne maeke ke vili.

(b) Fifili (✓) e puhala fakagahua ne maeke ke moua e numela avalisi he tau tagata ke he taha matakavi vili:

- $72 \times 3,900,000$
- $3,900,000 + 72$
- $3,900,000 - 72$
- $72 \div 3,900,000$
- $3,900,000 \div 72$



Mepe ma e tau matakavi vili ha Aotealoa Niu Silani

**QUESTION FIVE: Voting time**

Voting determines the people and parties that will be in parliament.

Elections in Aotearoa New Zealand happen every 3 years.

2023 is an election year.



Parliament buildings, Wellington

- (a) Was 1987 an election year? Show the working you use to answer this question.

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There are 72 electorates in Aotearoa New Zealand. That includes 7 Māori electorates.

About 3,900,000 people can vote.

- (b) Select (✓) the equation that gives the average number of people per electorate:

$72 \times 3,900,000$

$3,900,000 + 72$

$3,900,000 - 72$

$72 \div 3,900,000$

$3,900,000 \div 72$



Electorate map of Aotearoa New Zealand

Ko e matakau politika ko e potaaga tagata ne tatai e tau manatu.

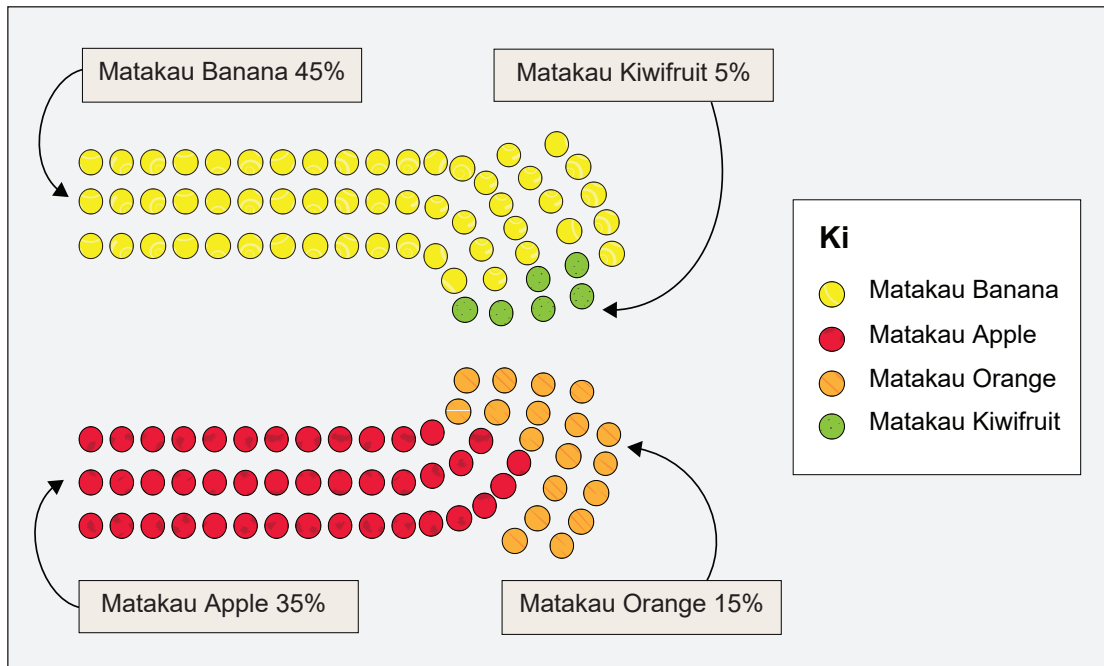
Ko e matakau Apple moua ai e lautolu 35% he tau vili, ti moua e lautolu 35% e tau nofoa 120 i loto he fono ekepile. Ko e 42 e nofoa ia.

(c) Fiha e nofoa ka moua ai he Matakau Orange?

\_\_\_\_\_ tau nofoa



Ke moua e Fakatufono, kua lata he tau matakau ke gahua auloa ke talaga e matakau ne higoa ko e coalition. Kua lata he matakau ke moua **molea e 50%** he tau nofoa he fono ekepile.



(d) Fifili (✓) e tau matakau oti ne maeke ke talaga e Fakatufono:

- Tau Matakau ha Banana mo e Orange
- Tau Matakau ha Apple mo e Orange
- Tau Matakau ha Kiwifruit mo e Banana
- Tau Matakau ha Apple mo e Banana
- Tau Matakau ha Orange mo e Kiwifruit
- Tau Matakau ha Orange, Kiwifruit mo e Apple

A political party is a group of people with similar ideas.

The Apple Party receives 35% of votes, so they get 35% of the 120 seats in parliament. That's 42 seats.

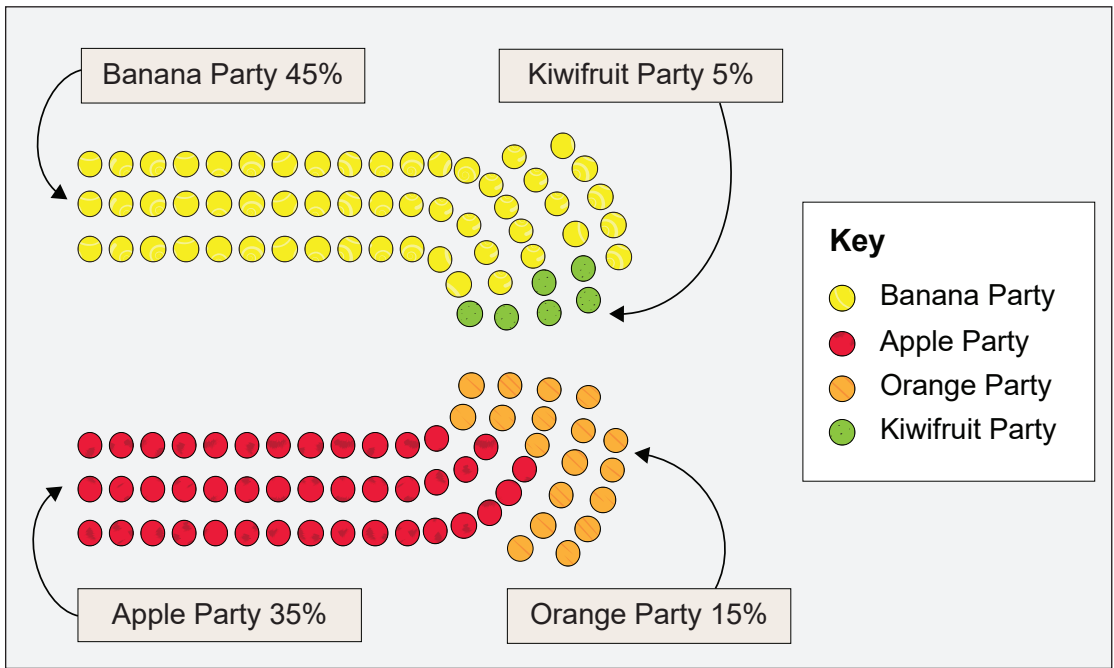
(c) How many seats does the Orange Party get?

\_\_\_\_\_ seats



To be the Government, parties need to work together and form a team called a coalition.

The team must have **over 50%** of the seats in parliament.



(d) Select (✓) all the teams that could form the Government:

- Banana and Orange Parties
- Apple and Orange Parties
- Kiwifruit and Banana Parties
- Apple and Banana Parties
- Orange and Kiwifruit Parties
- Orange, Kiwifruit, and Apple Parties

Ko e tau tagata vili oti i Aotealoa Niu Silani kua ua e fifiliaga kua taute ai. Vili a lautolu ma e **matakau**, mo e vili foki a lautolu ma e **tagata**.

Taha e lalafiaga ke vili ma e Matakau Banana mo Isaia Finaki. Taha foki ko e Matakau Orange mo Henry Chote.

Viliaga ma e Matakau	Viliaga ma e Tagata
Matakau Apple	CHOTE, Henry
Matakau Banana	FINAKI, Isaia
Matakau Kiwifruit	JONES, Tayla
Matakau Orange	NUI, Rawiri
	PEREZ, Joe
	WANG, Chris

(e) Fiha e tau puhala vili kehekehe ne kua maeke ke taute he laupepa nei?

\_\_\_\_\_ tau fifiliaga vili

Every voter in Aotearoa New Zealand makes two choices. They vote for a **party**, and they vote for a **person**.

One combination is to vote for the Banana Party and Isaia Finaki. Another is the Orange Party and Henry Chote.

Party Vote	Person Vote
Apple Party	CHOTE, Henry
Banana Party	FINAKI, Isaia
Kiwifruit Party	JONES, Tayla
Orange Party	NUI, Rawiri
	PEREZ, Joe
	WANG, Chris

(e) How many different voting combinations are possible on this form?

\_\_\_\_\_ voting combinations







### **Tau Manatu Fakaauae**

Kua fakaauae e tau koloa nei ke moua falu hikihihiagi ke lata mo e tau kamatamataaga nei.

### **Hühū fakamua**

Polynesian migration, <https://www.researchgate.net/publication/340980991/figure/fig1/AS:886207588343813@1588299762620/Schematic-map-showing-simplified-routes-of-human-aided-dispersal-of-Polynesian-rats.ppm>

Vaka (waka), <https://www.sail-world.com/Australia/photo/153655>

Small outrigger canoe, <https://thumbs.dreamstime.com/b/outrigger-boat-isolated-outrigger-boat-isolated-white-background-d-render-155707437.jpg>

Journey from Auckland to Hawai'i, <https://www.shutterstock.com/image-illustration/vector-flat-world-map-pacific-ocean-186564596>

Small islands, <https://www.shutterstock.com/image-vector/set-beautiful-tropical-island-illustration-600w-1117207331.jpg>

Vaka (waka), <https://www.rnzcgp.org.nz/news/equity/the-meihana-model/>

Diver, <https://www.vectorstock.com/royalty-free-vector/scuba-diver-gives-a-sign-vector-1228527.jpg>

### **Hühū ke ua**

Basketball court, <https://www.shutterstock.com/image-vector/basketball-court-floor-line-on-260nw-1012129195.jpg>

Basketball player silhouettes, <https://www.shutterstock.com/image-vector/women-basketball-vector-background-silhouette-set-148018928>

Stopwatch, <https://www.shutterstock.com/image-vector/illustration-metal-framed-timer-number-600w-132875495.jpg>

Basketball player, <https://www.shutterstock.com/image-photo/girl-holding-basketball-1080423551>

Girl holding basketball, <https://www.shutterstock.com/image-photo/female-high-school-basketball-player-shooting-198896321>

Most popular student sports graph, [https://en.wikipedia.org/wiki/Sport\\_in\\_New\\_Zealand](https://en.wikipedia.org/wiki/Sport_in_New_Zealand)

### **Hühū ke tolu**

Girl with long hair, <https://www.shutterstock.com/image-photo/back-young-woman-long-hairs-dressed-130542362>

Ambulance icon, <https://stock.adobe.com/images/ambulance-vector-icon/259011369>

Support person icon, <https://www.vectorstock.com/royalty-free-vector/hands-support-people-human-rights-day-line-icon-vector-33393898>

You choose icon, <https://www.vectorstock.com/royalty-free-vector/hand-holding-heart-icon-trust-and-care-symbol-vector-39784577>

Woman with flying hair, <https://myloview.com/poster-girl-with-flying-hair-young-smiling-girl-with-long-healthy-hair-no-50F6882>

### **Hühū ke fa**

Cow silhouettes, <https://stock.adobe.com/au/images/cow-silhouettes/67246226>

Daisy with ear tags, [https://www.seekpng.com/ipng/u2w7u2q8r5a9e6w7\\_logo-dairy-cow-logo/](https://www.seekpng.com/ipng/u2w7u2q8r5a9e6w7_logo-dairy-cow-logo/)

Cow walking, <https://vetlife.co.nz/wp-content/uploads/2021/01/Web-blog-heading-images4.jpg>

Mooloo the cow, <https://www.shutterstock.com/image-photo/holstein-black-white-cow-being-milked-666057604>

Milk splash, [https://img.freepik.com/premium-photo/milk-yogurt-splash-white-splash-3d-rendering\\_99236-359.jpg](https://img.freepik.com/premium-photo/milk-yogurt-splash-white-splash-3d-rendering_99236-359.jpg)

Glass of milk, [https://img.freepik.com/premium-photo/glass-milk-isolated-white\\_62856-4083.jpg](https://img.freepik.com/premium-photo/glass-milk-isolated-white_62856-4083.jpg)

Holstein cow, [https://img.freepik.com/premium-photo/holstein-cow-standing\\_191971-14133.jpg](https://img.freepik.com/premium-photo/holstein-cow-standing_191971-14133.jpg)

### **Hühū ke lima**

Parliament buildings, Wellington, [https://www.lowyinstitute.org/sites/default/files/styles/interpreter\\_article\\_image/public/bee hive%20bro%202.jpg](https://www.lowyinstitute.org/sites/default/files/styles/interpreter_article_image/public/bee hive%20bro%202.jpg)

72 electorates Aotearoa New Zealand, <https://vote.nz/maps/find-your-electorate/>

Apple, [https://www.freepik.com/free-photo/red-apple-with-green-leaf-white-background\\_1018481.htm](https://www.freepik.com/free-photo/red-apple-with-green-leaf-white-background_1018481.htm)

Banana, [https://img.freepik.com/premium-photo/ripe-banana-isolated-white\\_146936-1096.jpg](https://img.freepik.com/premium-photo/ripe-banana-isolated-white_146936-1096.jpg)

Kiwifruit, [https://stock.adobe.com/nz/images/gold-kiwi-isolated-on-transparent-png/573374618?asset\\_id=573374618](https://stock.adobe.com/nz/images/gold-kiwi-isolated-on-transparent-png/573374618?asset_id=573374618)

Orange, <https://www.walmart.ca/en/ip/orange-seedless/6000191272335>

### Acknowledgements

Material from the following sources has been adapted for use in this assessment:

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Vaka (waka), <https://www.sail-world.com/Australia/photo/153655>

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Journey from Auckland to Hawai'i, <https://www.shutterstock.com/image-illustration/vector-flat-world-map-pacific-ocean-186564596>

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Vaka (waka), <https://www.rnzcgp.org.nz/news/equity/the-meihana-model/>

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Basketball court, <https://www.shutterstock.com/image-vector/basketball-court-floor-line-on-260nw-1012129195.jpg>

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Stopwatch, <https://www.shutterstock.com/image-vector/illustration-metal-framed-timer-number-600w-132875495.jpg>

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Girl holding basketball, <https://www.shutterstock.com/image-photo/female-high-school-basketball-player-shooting-198896321>

Most popular student sports graph, [https://en.wikipedia.org/wiki/Sport\\_in\\_New\\_Zealand](https://en.wikipedia.org/wiki/Sport_in_New_Zealand)

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Support person icon, <https://www.vectorstock.com/royalty-free-vector/hands-support-people-human-rights-day-line-icon-vector-33393898>

You choose icon, <https://www.vectorstock.com/royalty-free-vector/hand-holding-heart-icon-trust-and-care-symbol-vector-39784577>

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Cow silhouettes, <https://stock.adobe.com/au/images/cow-silhouettes/67246226>

Daisy with ear tags, [https://www.seekpng.com/ipng/u2w7u2q8r5a9e6w7\\_logo-dairy-cow-logo/](https://www.seekpng.com/ipng/u2w7u2q8r5a9e6w7_logo-dairy-cow-logo/)

Cow walking, <https://vetlife.co.nz/wp-content/uploads/2021/01/Web-blog-heading-images4.jpg>

Mooloo the cow, <https://www.shutterstock.com/image-photo/holstein-black-white-cow-being-milked-666057604>

Milk splash, [https://img.freepik.com/premium-photo/milk-yogurt-splash-white-splash-3d-rendering\\_99236-359.jpg](https://img.freepik.com/premium-photo/milk-yogurt-splash-white-splash-3d-rendering_99236-359.jpg)

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Holstein cow, [https://img.freepik.com/premium-photo/holstein-cow-standing\\_191971-14133.jpg](https://img.freepik.com/premium-photo/holstein-cow-standing_191971-14133.jpg)

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Parliament buildings, Wellington, [https://www.lowyinstitute.org/sites/default/files/styles/interpreter\\_article\\_image/public/bee-hive%20bro%20.jpg](https://www.lowyinstitute.org/sites/default/files/styles/interpreter_article_image/public/bee-hive%20bro%20.jpg)

72 electorates Aotearoa New Zealand, <https://vote.nz/maps/find-your-electorate/>

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Orange, <https://www.walmart.ca/en/ip/orange-seedless/6000191272335>

# English translation of the wording on the front cover

## Numeracy 2023

### 32406N Use mathematics and statistics to meet the numeracy demands of a range of situations

Credits: Ten

32406N

OUTCOMES	
1	Formulate mathematical and statistical approaches to solving problems in a range of meaningful situations.
2	Use mathematics and statistics to meet the numeracy demands of a range of meaningful situations.
3	Explain the reasonableness of mathematical and statistical responses to situations.

Enter your National Student Number (NSN) and School Code in the box at the top of this page.

**You should attempt ALL the questions in this booklet.**

Answer all parts of each question by filling in the gaps or selecting (✓) the correct answer.

If you need more room for any answer, use the extra space provided at the back of this booklet.

Check that this booklet has pages 2–35 in the correct order and that none of these pages is blank.

Do not write in any cross-hatched area (DO NOT WRITE). This area will be cut off when the booklet is marked.

**YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE ASSESSMENT.**