

To be completed by candidate

NSN

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School Code

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SUPERVISOR'S USE ONLY

See back cover for an English translation of this cover

32406C TAU 4

Tuku atu i tetai tikoti ki roto i te pi'a (☒) me kare KOE i tata atu ana ki roto i teia puka

+



Mana Tohu Mātauranga o Aotearoa  
New Zealand Qualifications Authority

## Marama'anga numero 2023

**32406C Te ta'angaanga'anga i te apii numero e te au akapapa'anga o tetai au numero no tetai au tare'anga apinga, ei akamaramama i tetai au turanga e tare'anga tetai**

Kai: Ta'inga'uru

### TE KA RAUKA MAI

1	Akanoo'anga i tetai au raverave'anga na roto i tetai au taangaanga'anga tuketuke te numero i roto i tetai au tareanga e te akapapa'anga ei tauturu i te akamarama mai i tetai au turanga tuketuke.
2	Te ta'angaanga'anga i te apii numero e te au akapapa'anga o tetai au numero no tetai au tare'anga apinga, ei akamaramama i tetai au turanga e tare'anga tetai.
3	Te akamarama'anga i te puapinga o te numero e te akapapa'anga numero tei rauka, ei akamarama i tetai turanga.

Tuku atu i toou numero tauira (NSN) e pera to te Apii ki roto i te pi'a tei akairo'ia i te tua ia runga o teia kapi.

**E tauta atu koe i te pa'upa'u i te au ui'anga KATOATOA i roto i teia akapapa'anga.**

Pa'upa'u atu i te au tu'anga katoatoa o te au ui'anga na roto i te akakiki atu'anga i te au ngai tei akataka'ia me kore i te akairo atu'anga te au ngai ka anoano i teia (✓) no te pa'u'anga taau i manako e kua tano.

Me kare e rava te ngai te akanoo'ia no te tata atu i taau pa'u'anga, ta'anga'anga atu i te au kapi i muri i te pae openga o teia puka.

Akara meitaki atu e tei roto i teia puka te akapapa'anga kapi mei te 2–35 i roto i te akapapa'anga tano, ma te kore e kapi taka'ua kare e apinga i runga.

Auraka e tata atu ki roto i tetai ngai teia akataka'ia mei teia te tu (WRITE HERE). Ka tipu ia atu teia tu'anga me makā ia atu teia puka.

**KA ANOANO'IA KOE KIA TUKU ATU I TEIA PUKA KI TE TANGATA AKATERE O TEIA AKARAKARA'ANGA ME OTI TE AKARAKARA'ANGA.**

## UI'ANGA TA'I: Aere'anga na roto i te Patipika

Kua teretere mai te iti tangata Māori mei te au enua me ia Tahiti e tae ua mai ki Aotearoa.

Kua na runga mai ratou i te Vaka Tau Rua, e au Vaka mamaata e rua Vaka ei ama tetai no tetai.

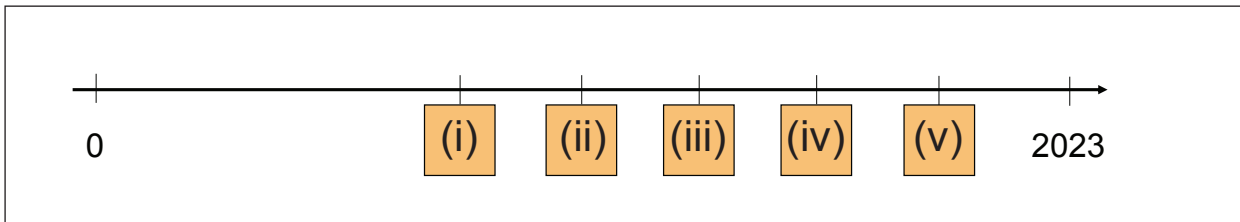


(a) Iki atu (✓) ko te kaveinga mai o teia tere mei Tahiti ki Aotearoa nei:

- Opu'anga Ra   
  Tonga   
  Muritonga   
  Marangai   
  Apatonga

Ko teia mataiti 2023. Mei te mataiti 1250 aere, kua tae mai te iti tangata Māori ki Aotearoa nei.

Mei tetai 800 mataiti i topa ake nei.



(b) Iki (✓) te ngai ka akaari mai mataiti 1250 i runga i teia akapapa'anga mataiti:

- (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.

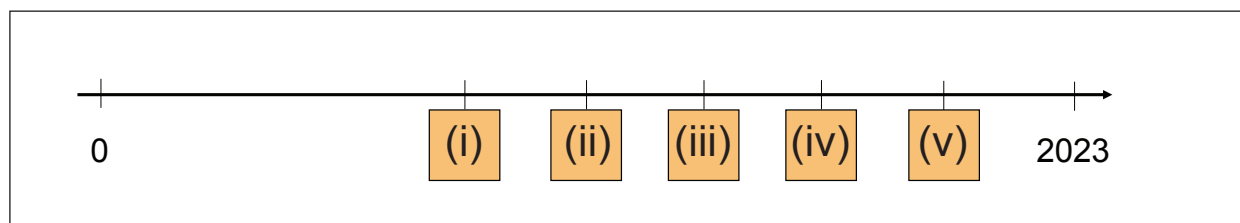


(a) Select (✓) the compass direction of the trip from Tahiti to Aotearoa New Zealand:

- 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)

Ko Waka e te Vaka te ingoa a te iti tangata Porinetia no te pai tai.

Ko te roaroa o te Vaka okotai, e 22 metera. Ko te roaroa o tetai vaka ama koia e 3.6 metera.



Vaka (waka)



Vaka ama rikiriki

(c) Mei teaa te maatamaata o te vaka i te pae i te vaka ama rikiriki?

\_\_\_\_\_ Taime roaroa atu

E mapu teia no te akaari i te aere'anga o tetai vaka mei Akarana ki Vai'i.



(d) Na roto i te taangaanga'anga i te vaito'anga i runga i te mapu, ko tei'ea te tamanako'anga vaitata roa atu no te mamao o teia tere?

5,000  
kiro metera

7,000  
kiro metera

9,000  
kiro metera

11,000  
kiro metera

13,000  
kiro metera

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

Te uri ara te Vaka ki te tua Akarua.



Kua koropini'ia te vaka e tetai 'itu enua rikiriki

- (e) Me uri the vaka mei tetai  $135^\circ$ , ko tei'ea enua to mua iaia me noo tika ua aia kare e tere ki mua? Iki (✓) i taau pa'u'anga mei roto mai i te akapapa'anga pa'u'anga i raro nei.

- A       B       C       D       E       F       G

E ruku koura ana a Hine mei raro mai i te ta'ua o te moana. E 17 metera te oonu e taea ei te ta'ua o te moana.

- (f) Eaa te mamao ia Hine ki raro me tae mai aia ki tetai 8 metera mei te ta'ua mai o te moana? Tata mai i taau pa'u'anga ma te akairo numero i raro ake i te 0 (kare). Akara'anga,  $-2$  Aite'anga 2 metera i raro ake i kiri a tai:

\_\_\_\_\_ metera

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

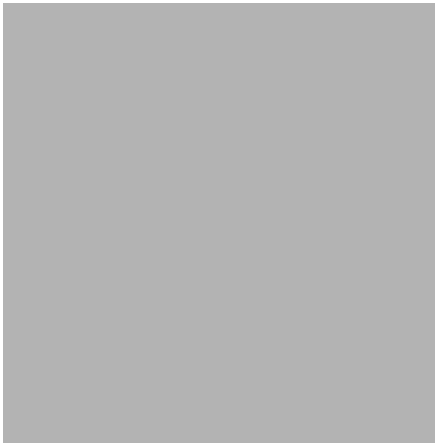
G

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

E toru pairere te akaruke nei mei te ngai akato'anga pairere i Akarana. Te akakite nei a Olioli e, e roa atu te rere'anga ki Tonga i te rere'anga ki Viti e Niue.



Enua i Akakoroia	Akaruke'anga (Ora Aotearoa)	Tae'anga (Ora Aotearoa)
Nadi (Viti)	09.55	13.00
Nuku'Slofa (Tonga)	11.25	14.15
Alofi (Niue)	08.15	11.45

(g) Kua tano ai nei ta Olioli? Ta'anga'anga atu i te ora, ei akamarama atu i taau pa'u'anga.

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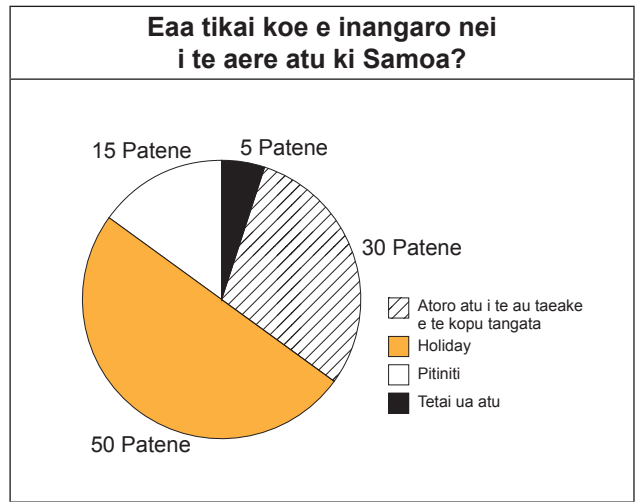
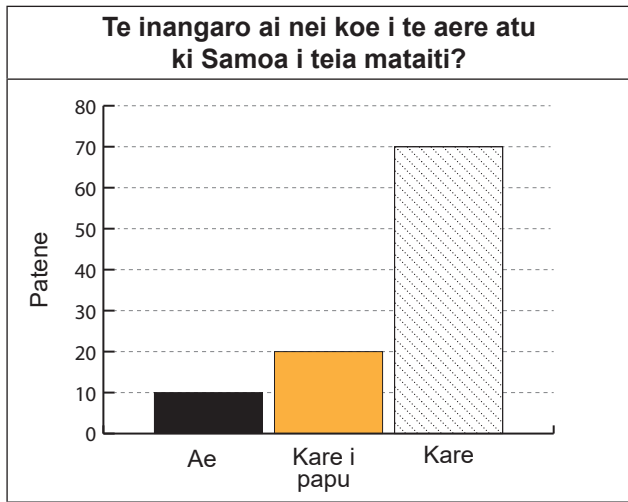
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Kua ui ia atu ki tetai 1000 iti tangata Aotearoa e, "te inangaro ai nei koe i te aere atu ki Samoa i teia mataiti?" Kua ui ia atu ki te aronga tei pa'u mai e "ae" e "eaa tikai koe e inangaro nei i te aere atu ki Samoa?"

Teia te akaari'anga i te akako'uko'u'anga o te au manako i runga i teia pa'ata akatutu.

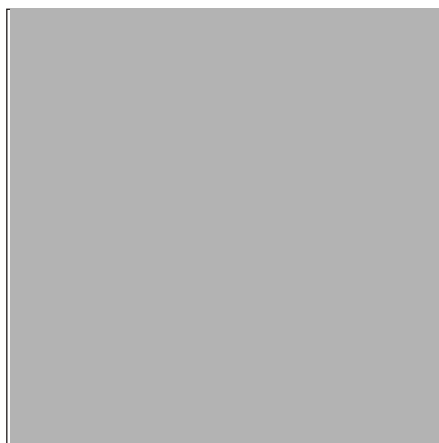


(h) Iki (✓) te au akakite'anga tano **no te 1000 aronga Aotearoa**. Kare e tai ua pa'u'anga tano.

- 10% o te tangata e inangaro nei i te aere atu ki Samoa i teia mataiti.
- E 200 tangata, kare i papu ia ratou e, me ka aere atu ratou ki Samoa i teia mataiti.
- E 500 tangata e inangaro nei i te atoro atu ia Samoa no te orote.
- Mei tetai 1/3 o te au tangata e inangaro nei i te aere atu ki Samoa no te atoro atu i to ratou au taeake e te kopu tangata.



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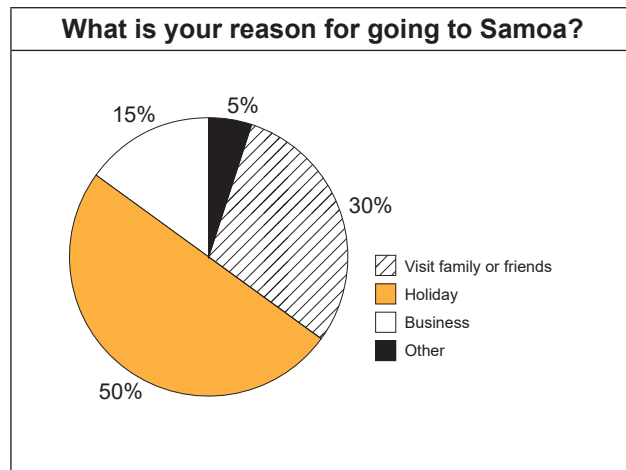
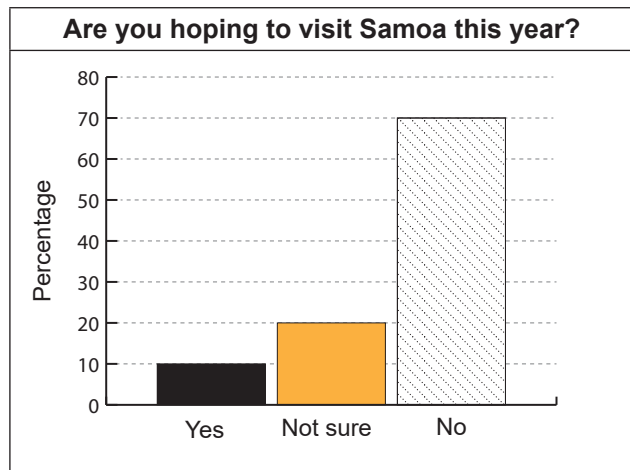
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1000 New Zealanders were asked, “Are you hoping to visit Samoa this year?” The people who said “Yes” were asked, “What is your reason for going to Samoa?”

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.

**UI'ANGA RUA: Kana poro**

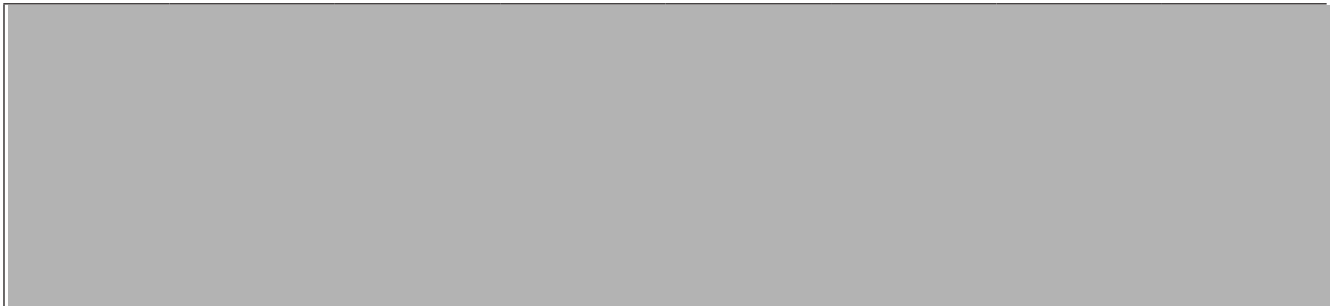
E tutu teia no te taua tarekareka kana poro e ko tona vaito, e 15 metera te atea, e 28 metera te roa.

- (a) Na roto i te vaito'anga metera pi'api'a, eaa te maatamaata o teia ngai tarekareka?

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



Ko teia te aronga i roto i te pupu kana poro. Ko to ratou roaroa tatakita'i kua vaito'ia i roto i te metera.



<b>Nia</b> 1.57 metera	<b>Ani</b> 1.6 metera	<b>Kendra</b> 1.94 metera	<b>Sue</b> 1.7 metera	<b>Mere</b> 1.78 metera	<b>Lucy</b> 1.8 metera	<b>Tania</b> 1.61 metera	<b>Sina</b> 2.01 metera
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- (b) Ko te akapapa'anga o teia pupu mei te tangata poto ki te tangata roaroa roa atu i konei, ka anoano'ia tetai tokorua kia tauifia to raua ngai i roto i teia akapapa'anga, ko teiea tokorua?

\_\_\_\_\_ e te \_\_\_\_\_

E 40 meneti te roa o te tarekareka kana poro okotai. Ka anoano te tangata tereni kia aiteite te tuatau o te tangata okotai i te kanga'anga okotai, inara e 5 rai tangata ka akatika'ia ki runga i te taua tarekareka i te taime okotai, e 8 ra oki arongo tarekareka no te tarekareka'anga okotai.

Ko te irinaki'anga o te tangata tereni, kia rauka i te tangata okotai e, 30 meneti i te kanga'anga okotai.



- (c) Te tano ara aia? Akaari mai i taau akataka'anga ora no te pange i taau pa'u'anga.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 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
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- (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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Ko te arara'anga tau roa atu no te rere akatano'anga i te ki roto i te kiini koia e 48°.

(d) I roto i te tutu i raro nei, akapunupunu mai  i te **tara** vaiata roa atu ki tera arara'anga.



E kanga kana poro ana a Lucy.

I roto i tana au kanga'anga, e o ana iaia tetai 50% o tana au pei oronga aere i roto i te au kanga'anga okotai.

E rua a Lucy pei oronga, e tai muri ake i tetai. Kare aia e ekoko ana e, e okotai o teia tokorua ka o atu ki roto i te kiini.



Te pei nei a Lucy i tetai pei oronga

(e) I toou manako e te tano ara tona irinaki'anga? Akamarama mai i taau pauanga na roto i te turanga pau'anga matau'ia i roto i te au kanga'anga aere a Lucy i mua ana.

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.

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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Te akaari mai nei teia paata akatutu i te au tarekareka mataora roa atu a te au tamariki apii o Aotearoa i te mataiti 2022.



- (f) Mei teaa te maata'anga o te au tamariki tamaroa e te tamariki tamaine mei roto mai i te au apii o Aotearoa e kanga kana poro ara i te mataiti 2022?

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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?

\_\_\_\_\_

**UI'ANGA TORI: *Varu ei Rapakau***

Te varu nei a Mia i tona katu ei kimi moni no te oronga ka inangaro tauturu.

Ko tona roaroa 'e 1.72 metera.

Mei te 'ope o tona rouru ki te runga i te one, e 0.89 metera.

(a) Eaa te roaroa i te rouru o Mia i roto i te metera?

\_\_\_\_\_ metera



Mia

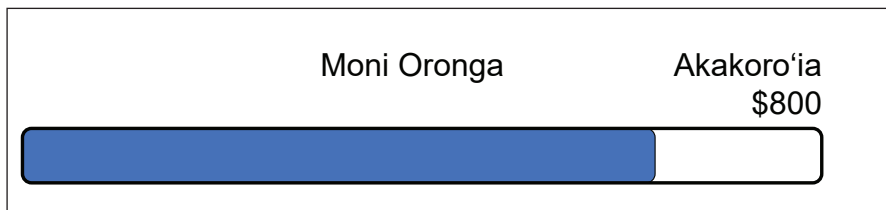
Teia e toru ravenga no te oronga atu'anga i taau tauturu ki te *Varu no te Rapakau*.



(b) Eia *apinga akaoro* ki te *Are Maki* ka aiteite ua te moni ka rauka mai na roto i teia kimikimi'anga e te **10 tauturu tangata** turuturu'anga?

\_\_\_\_\_

Te akaari mai nei teia pou pou i te tauturu tei na roto mai ia Mia.



(c) Mei teaa te maata i te tauturu tei rauka mai ia Mia?

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



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

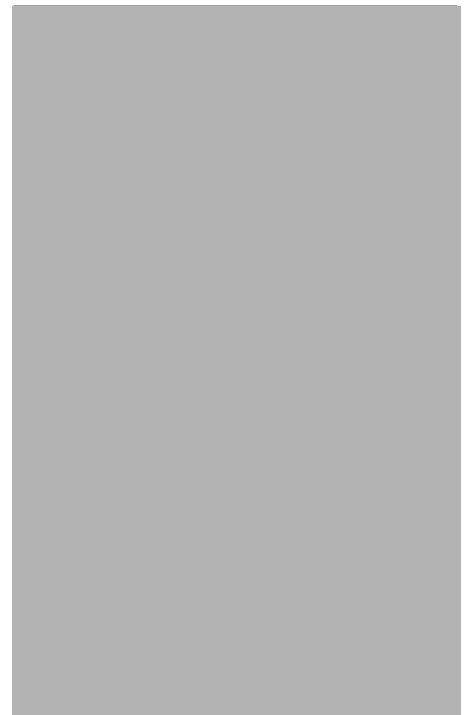
Mia is shaving her hair to raise money for charity.

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

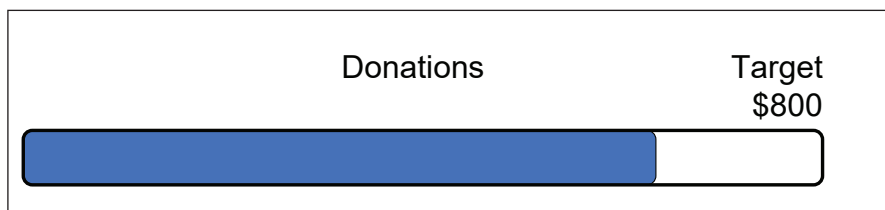
Here are three options for donating to *Shave for a Cure*.



- (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.

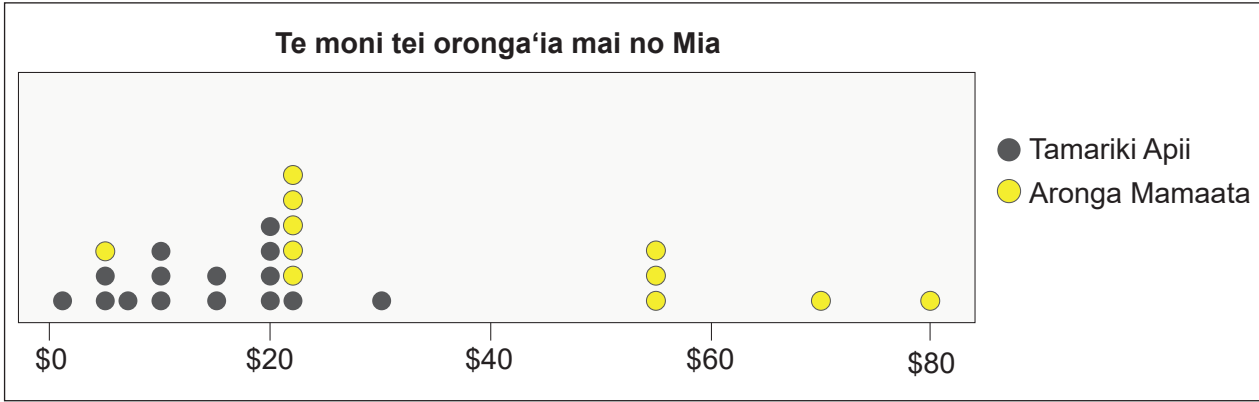


- (c) About how much has Mia received in donations?

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

I roto i teia paata akatutu, te akaari mai nei teia i te tauturu a te au tangata tatakitai.

Ko te maata i te tauturu mei te au tamariki apii e te aronga mamaata kua akatakake'ia na roto i te kara tuke.



(d) Eaa te tuke i te maata i te moni mei te au tamariki apii mai e te moni mei te aronga mamaata mai? Taanga atu i te au numero mei runga mai i te paata akatutu ei akamarama i taau pa'u'anga.

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Ka rauka katoa ia Mia i te oko atu i tona rouru ki tetai ngai maani rouru pikikaa.

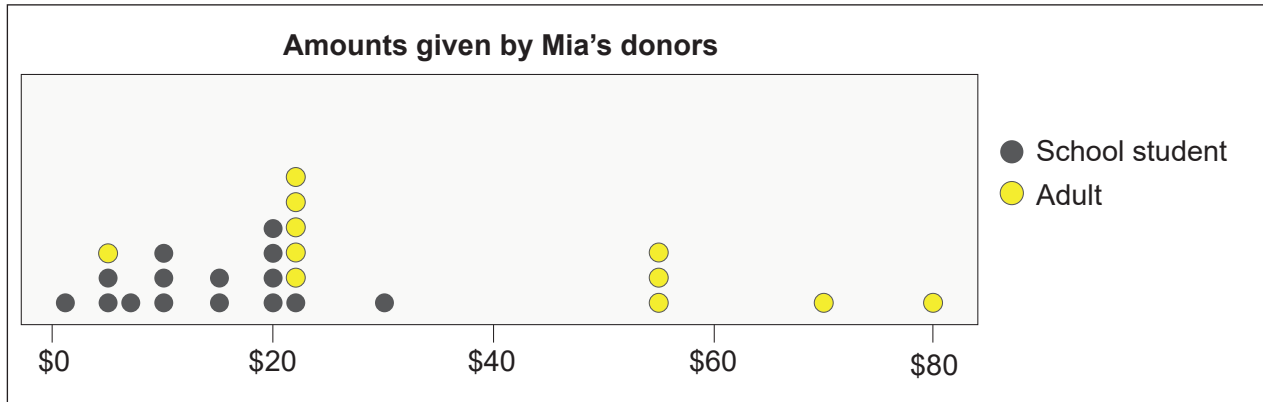


(e) Me oko a Mia e 0.70 metera o tona rourut, eia ana moni ka rauka mai?

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

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?

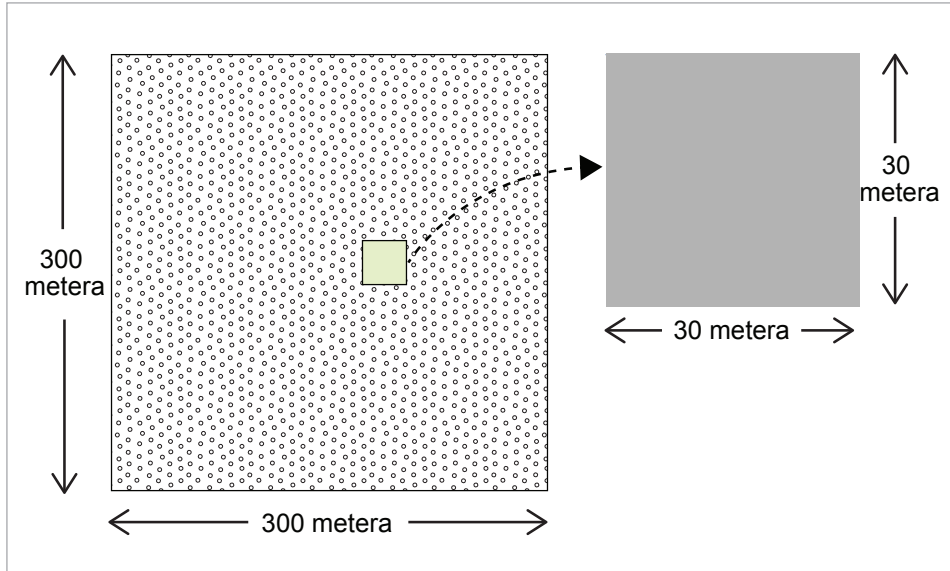
\$ \_\_\_\_\_

### UI'ANGA 'Ā: Puakatoro

Ko te aua a te Tangata angai Puakatoro, mei tetai 300 metera te atea e te roa katoa.

Ko te au tu'anga aere tei akataka'ia mei te 30 metera te atea e te roa, taki 5 puakatoro i runga.

Kua aka'aiteite'ia te vava'i'anga i te puakatoro na runga i teia nga'i.



(a) Tamanako mai e, e'ia pukatoro i te katoutoa i runga i teia nga'i:

\_\_\_\_\_ puakatoro

Teia te tutu o Daisy.



(b) Te kite nei a Daisy i tona ata i roto i te vai.

Mei roto mai i teia au tutu i raro nei, iki mai (✓) i te tutu tei tau ki te ata ta Daisy e kite ara.

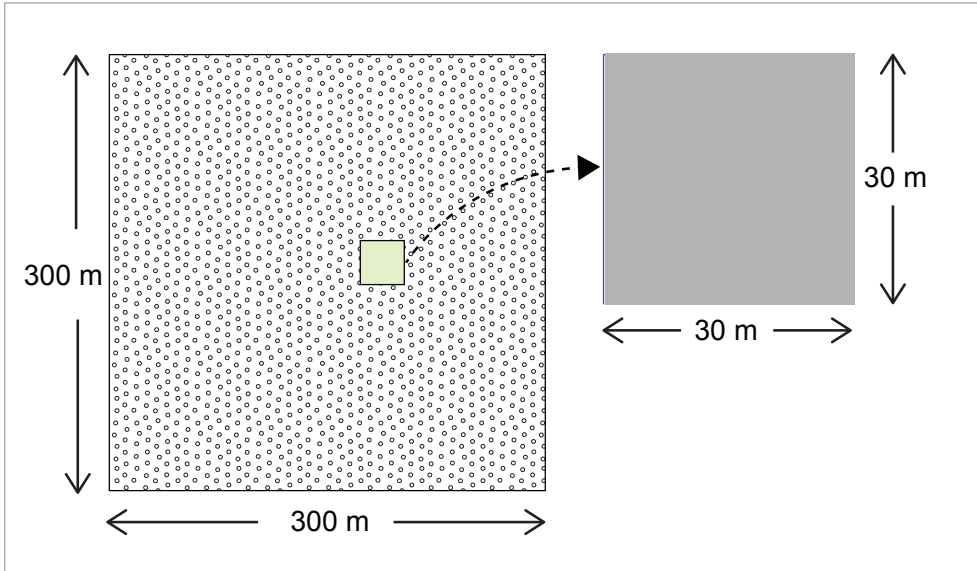


**QUESTION FOUR: Cows**

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

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

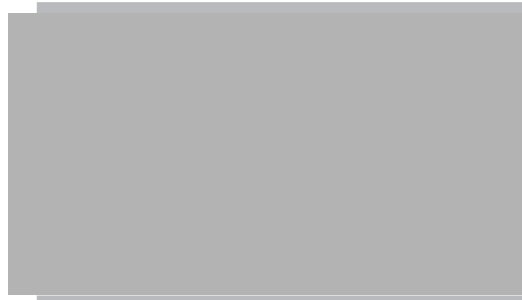
The cows are evenly spread throughout the field.



(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.



I te ra okotai, e aere ana te puakatoro mei tetai 12,000 takai'anga. I te au taka'i'anga roa rai, e teke ana te puakatoro mei tetai 1.6 metera.

Te akakite nei tetai tangata angai puakatoro e, e aere ana e tai puakatoro mei tetai 20 tauatini metera i te ra.



(c) Te tano ara tera tamanako'anga? Akaari mai i taau akataka'anga numero ei turu i taau pa'u'anga.

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

Ko Mooloo, e puakatoro teia, e rauka mai ana mei tetai 35 rita u mei roto mai iaia i te ra.

I roto i te au ngutu'are tangata, e taangaanga ana ratou mei tetai 3 rita u i te au 2 ra rava rai.



(d) Eia ra i toou tamanako'anga e pou ei i teia ngutu'are tangata teia 35 rita u?

\_\_\_\_\_ au ra

Vertical text on the right edge of the page, including 'DO NOT WRITE IN THIS AREA' and other repetitive phrases.

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.

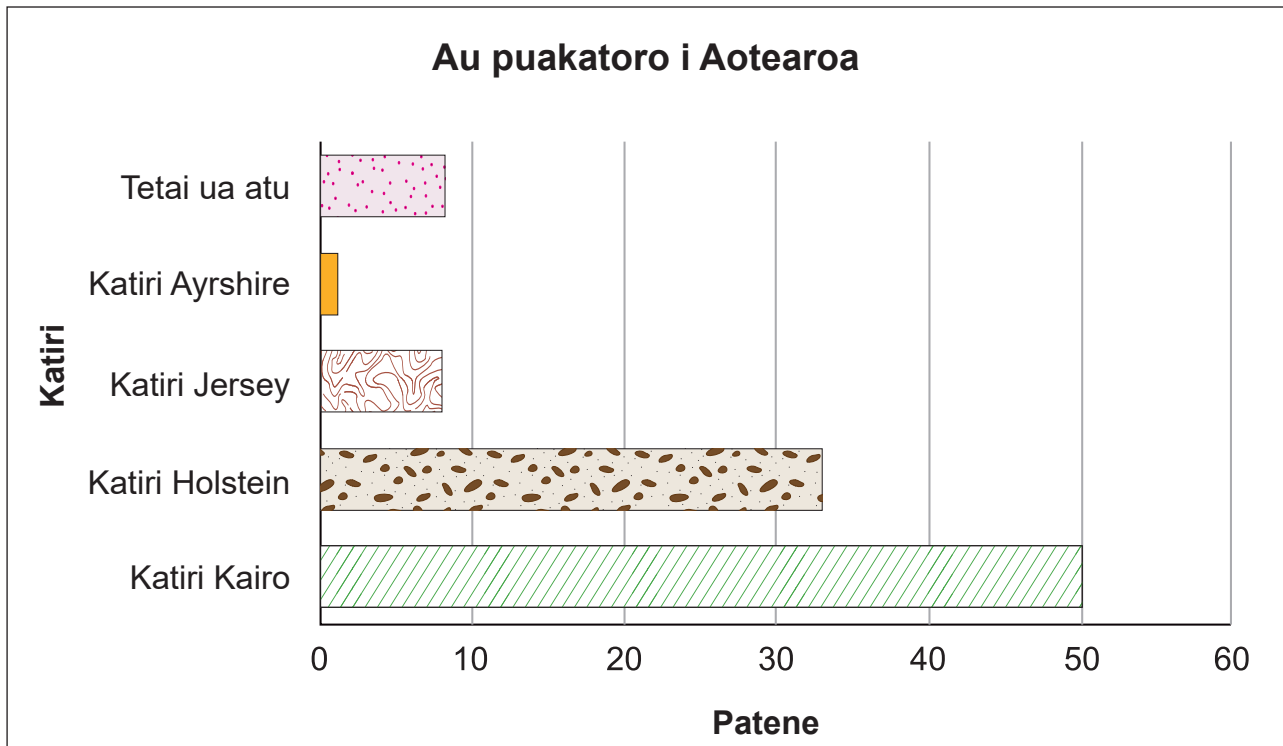
A family uses 3 litres of milk every 2 days.



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

\_\_\_\_\_ days

Mei tetai 6 mirioni puakatoro i te katoatoa'anga i Aotearoa nei.



(e) Mei roto mai i teia paata 'akatutu i runga nei **mei teaa te maata** i te katiri puakatoro Jersey i Aotearoa nei?

\_\_\_\_\_ Katiri Puakatoro Jersey



Ko teia tangata angai puakatoro, e 300 ana puakatoro katiri Holstein, e 200 katiri Jersey.

Kare e akaari'anga e taka mai ana e, ko tei'ea te katiri e na mua ua ana i te pate'ia to ratou u.

(f) Te akakite nei te tangata angai puakatoro e, mei tetai 60% o tona irinaki'anga e ko te Holstein te katiri mua e pate ia ana. Te tano nei aia?

Akataka mai i taau pa'u'anga e tae roa atu ki te au tu'anga o te numero i raro ake i te ta'i.

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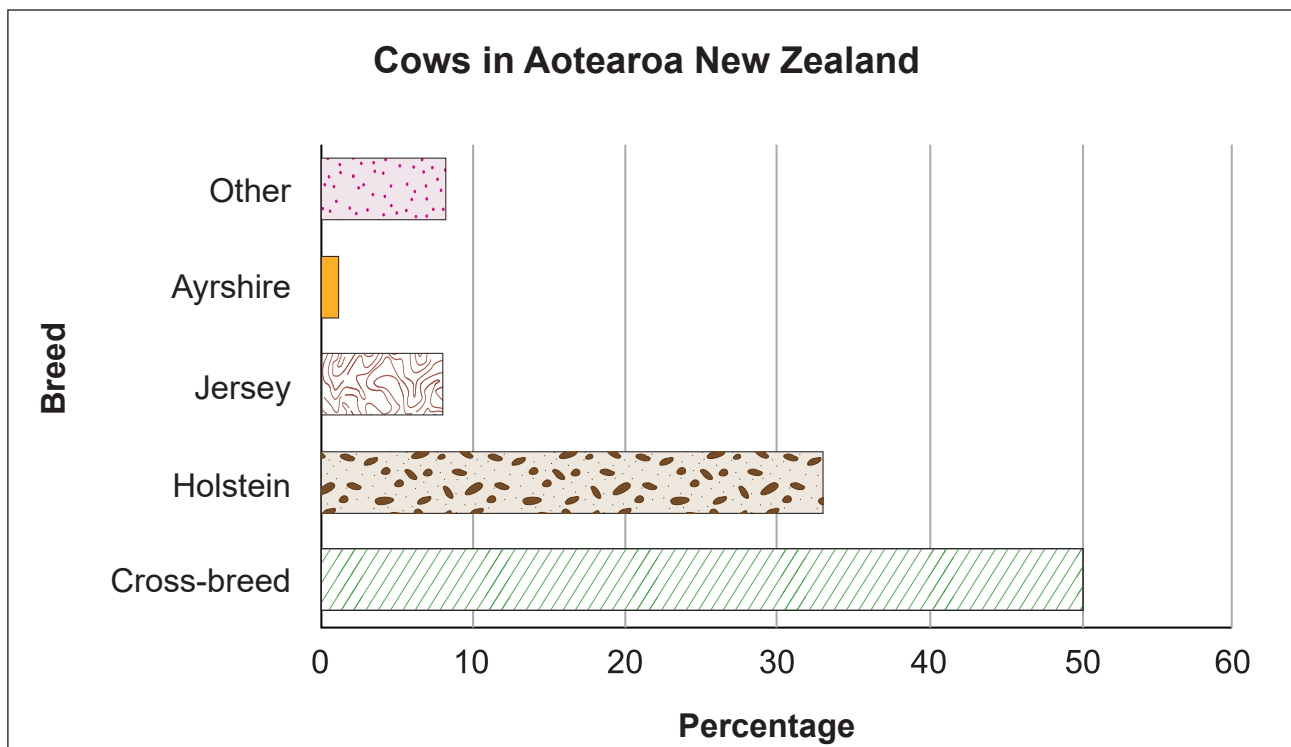
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There are about 6 million cows in Aotearoa New Zealand.



- (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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**UI'ANGA RIMA: Tuatau iki'anga**

Na roto i te iki'anga e rauka mai ei te au tangata e te au Pati te ka aere atu ki roto i te iki'anga.

I Aotearoa nei, e rave'ia ana te iki'anga i te au 3 mataiti rava rai.

Mataiti 2023 tetai mataiti no te iki'anga.



Are Paramani, Poneke

- (a) E mataiti iki'anga ainei te mataiti 1987? Akaari mai i taau akataka'anga numero i rauka mai ei taau pa'u'anga.

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E 72 tu'anga iki'anga i Aotearoa nei. I roto i teia, e 7 tu'anga iki'anga Māori.

Mei tetai 3,900,000 tangata ka rauka i te tuku atu i ta ratou iki'anga.

- (b) iki atu (✓) i te akataka'anga numero e rauka mai ei te tare'anga tangata no te tu'anga iki'anga tatakita'i.

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



Mapu no te au tu'anga iki'anga o Aotearoa

## 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 te au Pati no teia angaanga, e rauka mai ana te reira mei roto mai i tetai pupu tangata, aiteite ua to ratou au manako.

Ko te Pati Aparā, e rauka ana ia ratou tetai 35% o te katoa'anga o te aronga ka tau i te iki atu. No reira ka peke atu ia ratou e 35% o te 120 no'o'anga i roto i te Paramani. E 42 e ra no'o'anga.

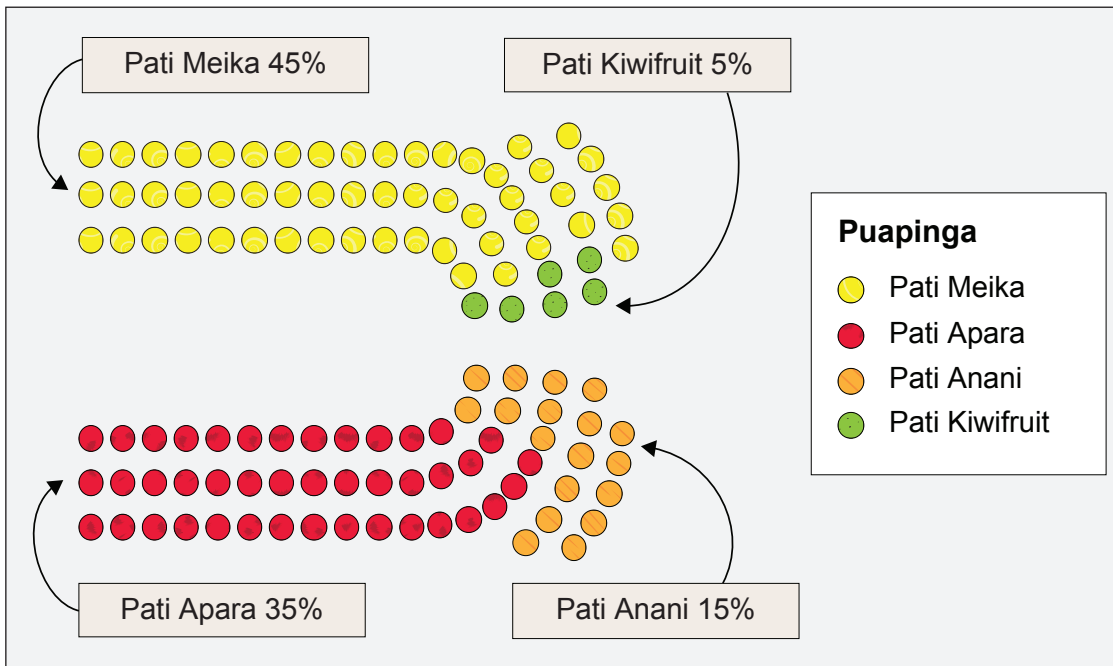
(c) E'ia nooanga e aere ana ki te Pati Anani?

\_\_\_\_\_ nooanga



Ko te ravenga e riro ei ko ratou te Kavamani, ka anoano'ia te au Pati kia angaanga kapiti atu ki tetai au Pati takake no te akatupu atu i tetai pupu koia te coalition.

Ka anoano'ia kia rauka i teia pupu **ara atu i te 50%** o te noo'anga i roto i te Paramani.



(d) Iri mai (✓) i te au akapupu'anga te ka tau no te akatupu atu i te Kavamani:

- |   |  |
|---|--|
| <input type="radio"/> Pati Meika e te Anani     | <input type="radio"/> Pati Aparā e te Meika            |
| <input type="radio"/> Pati Aparā e te Anani     | <input type="radio"/> Pati Anani e te Kiwifruit        |
| <input type="radio"/> Pati Kiwifruit e te Meika | <input type="radio"/> Pati Anani, Kiwifruit e te Aparā |

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.

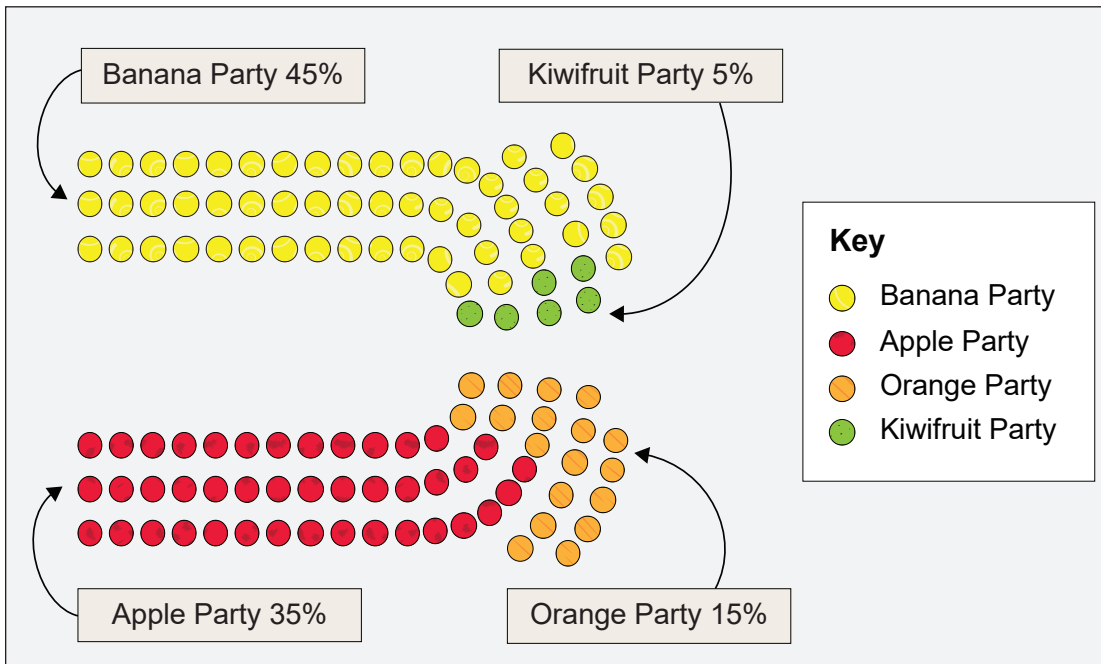
(c) How many seats does the Orange Party get?

\_\_\_\_\_ 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

Ka rauka i te au tangata e tikaanga to ratou i te iki i Aotearoa nei i te tuku atu e rua iki'anga. Ka iki atu ratou i tetai **Pati** e ka iki katoa ratou i tetai **mema**.

Mei teia te tu, ka rauka ia koe i te iki atu i te Pati Meika e ia Isaia Finaki. Me kore i te Pati Anani e pera ia Henry Chote.

Iki'anga Pati	Iki'anga Tangata
Pati Aparā	CHOTE, Henry
Pati Meika	FINAKI, Isaia
Pati Kiwifruit	JONES, Tayla
Pati Anani	NUI, Rawiri
	PEREZ, Joe
	WANG, Chris

- (e) E'ia akataka'anga tuketuke mei teia te tu ka rauka mei roto atu i te akapapa'anga Pati e te tangata tei tukuna ia atu?

\_\_\_\_\_ au akataka'anga iki ka rauka

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







### Akameitaki'anga

Te au tuanga tata no roto i teia au puka tei akanoo'ia no te rave'anga i teia tarere.

### Ui'anga Ta'i

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>

### Ui'anga Rua

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)

### Ui'anga Tori

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>

### Ui'anga Ā

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)

### Ui'anga Rima

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

#### Question three

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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>

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

#### Question four

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>

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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)

#### Question five

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

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

Credits: Ten

32406C

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.**