

To be completed by candidate

NSN

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School Code

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SUPERVISOR'S USE ONLY

32406 TERM 3

Draw a cross through the box (X) if you have NOT written in this booklet

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Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

Numeracy 2025

32406 Apply mathematics and statistics in a range of everyday situations

Credits: Ten

WEEK TWO | 8–12 SEPTEMBER 2025

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

Enter your National Student Number (NSN) and School Code into the space above.

You should attempt ALL the questions in this booklet.

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 2–27 in the correct order and that none of these pages is blank.

Do not write in the margins (/////). This area will be cut off when the booklet is marked.

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

QUESTION ONE: Movies

This table ranks movies by how much money they made.

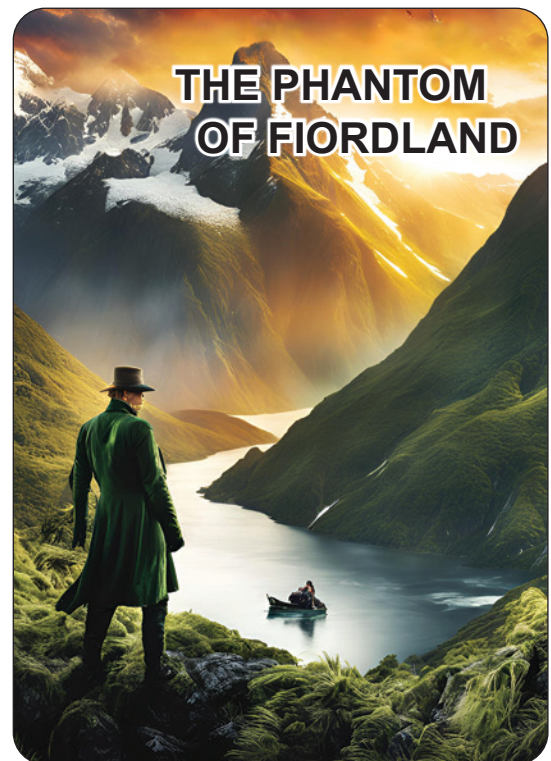
Rank	Movie	Money made
1	Tides of Aotearoa	\$1,629,000,000
2	Operation Sun Fall	\$1,239,000,000
3	Karate Keas	\$852,005,000
4	Lizardfire: The Final Showdown	\$750,000,000
5	Rebellion on Mars	\$711,800,000

The Phantom of Fiordland makes \$1.108 billion.

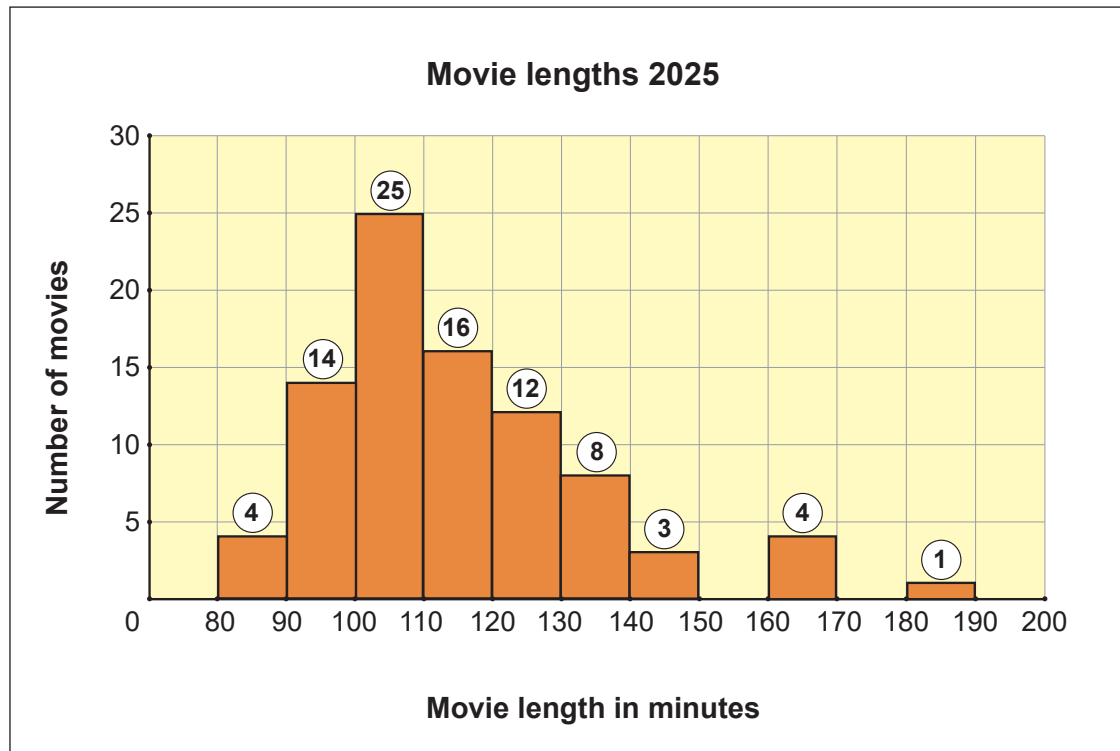
- (a) If the movie is added to the table above, what rank will it be?

Select (✓) the correct rank.

- (i) ☐ 1
- (ii) ☐ 2
- (iii) ☐ 3
- (iv) ☐ 4
- (v) ☐ 5



This graph shows movie lengths in 2025.



A magazine says about 20% of the 87 movies are 130 minutes long or longer.

(b) Is the magazine correct? Use numbers from the graph to explain your answer.

You want to see the movie *The Phantom of Fiordland*.



The Phantom of Fiordland

PG
103 min

Start times		
3:50 p.m.	5:55 p.m.	8:20 p.m.

It starts at 3:50 p.m. and lasts 103 minutes.

- (c) What time will it end?

 p.m.

Movie tickets for two adults, one student, and one child will cost you \$91 in total.

If you pay \$10 to get a CinemaAotearoa membership, you will get 20% off all ticket prices.

- (d) How much will you save on the tickets if you get a membership?

(Don't forget to include the \$10 cost of membership.)

\$

CinemaAotearoa	
Ticket prices	
\$25.00	Adult
\$21.50	Student (with ID)
\$19.50	Child (14 & under)

You want to buy one large popcorn, two large drinks, and one ice cream.

Snack prices			
	Small	Medium	Large
Popcorn	\$10	\$11	\$12
Drink	\$8	\$9	\$10
Ice cream	\$7 each		

Large popcorn, 2 large drinks

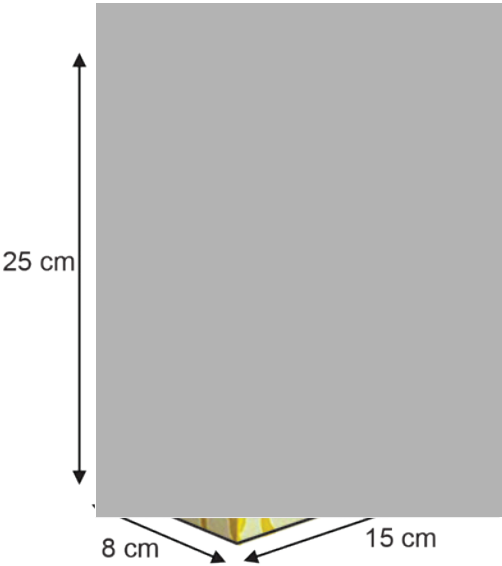
Combo \$29.40

(e) Is it cheaper to buy the combo with the ice cream added, or pay the usual snack prices? Explain your answer, using the information above.

Here are the dimensions of a popcorn box.

(f) How many litres does the box hold?

Note: 1 litre = 1000 cm³

L

QUESTION TWO: Health

There are 206 bones in the human body.

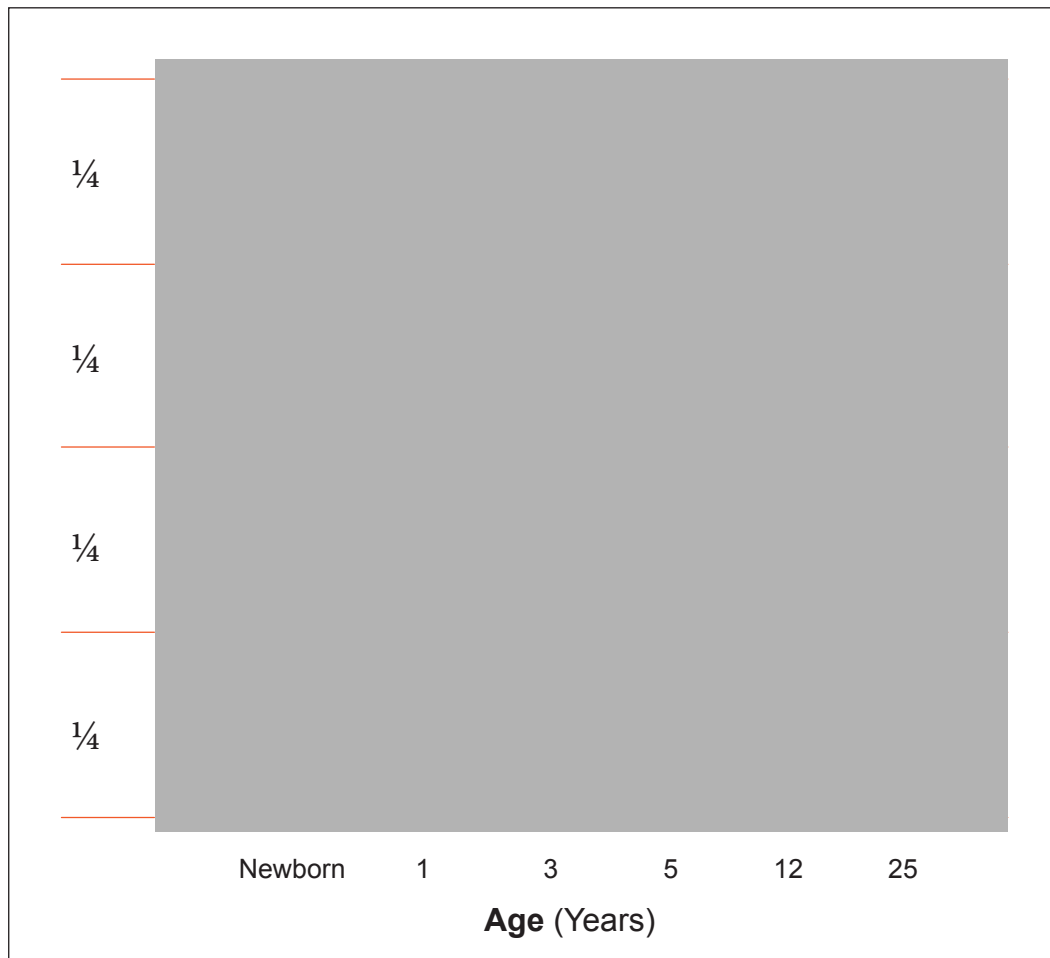
About 12% of all the bones are found in the rib cage.

- (a) How many rib bones are there?

rib bones

**This section is deliberately blank.
The assessment continues on page 7.**

This diagram shows that as people grow up, their head becomes a smaller fraction of their total height. A one-year-old's head is one quarter of how tall they are.



(b) What fraction of a **newborn** baby's height is their head?

Select (✓) the correct fraction.

(i) ☐ $\frac{1}{4}$

(ii) ☐ $\frac{1}{3}$

(iii) ☐ $\frac{3}{5}$

(iv) ☐ $\frac{4}{5}$

(v) ☐ $\frac{1}{2}$

An Automated External Defibrillator (AED) costs \$2,760.

- (c) How much would it cost with a 30% discount?

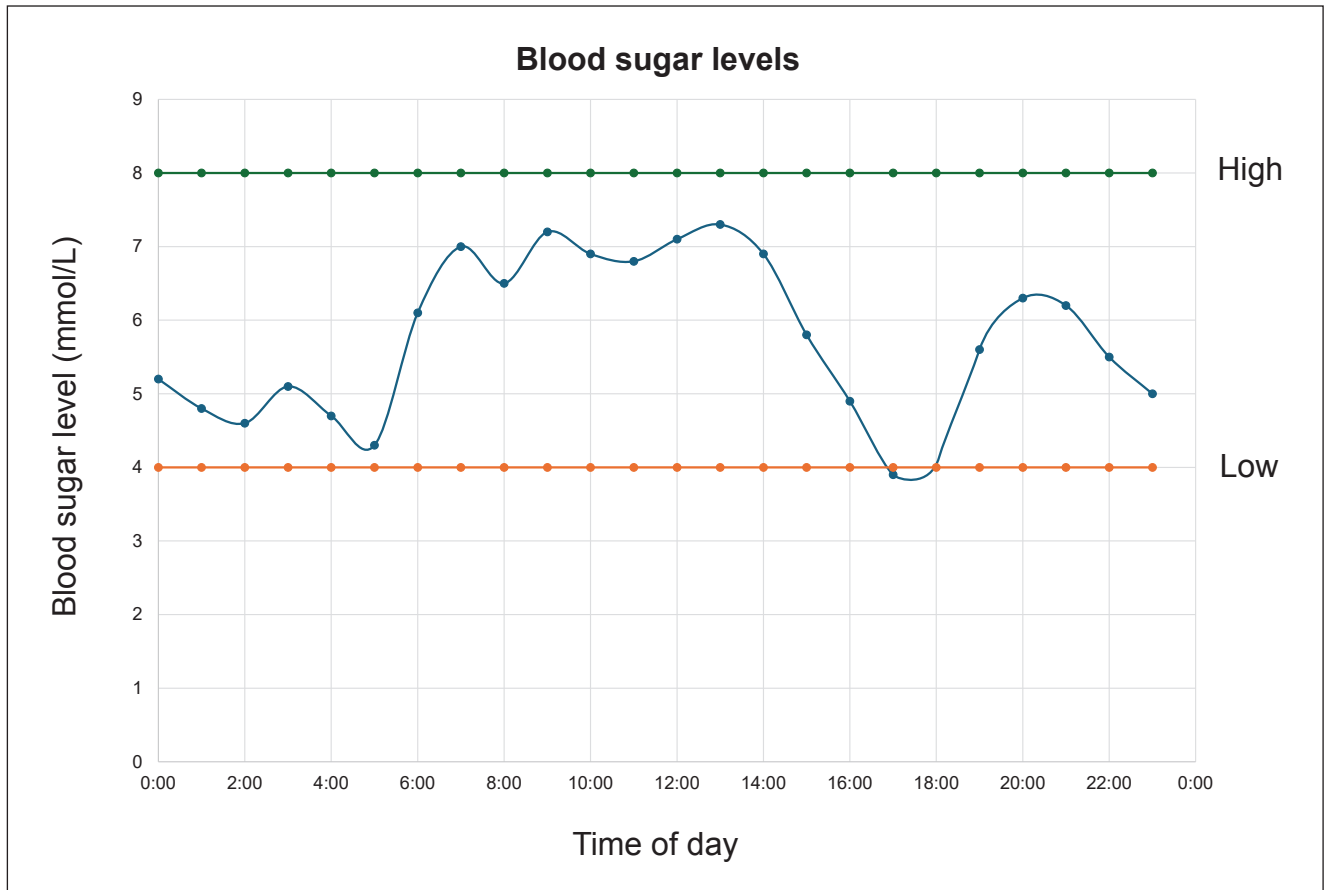
\$

During Cardiopulmonary Resuscitation (CPR), you need to push on the person's chest at a rate of 100 to 120 times per minute.

- (d) What is the **greatest** number of pushes you should do in 8 minutes?

pushes

The graph below shows a person's blood sugar levels.



This person went for a one-hour run, **starting** at 6:00 a.m.

- (e) Did the run cause their blood sugar level to rise? Use numbers from the graph to explain your answer.

On a sunny summer day, your skin can burn in just 12 minutes.

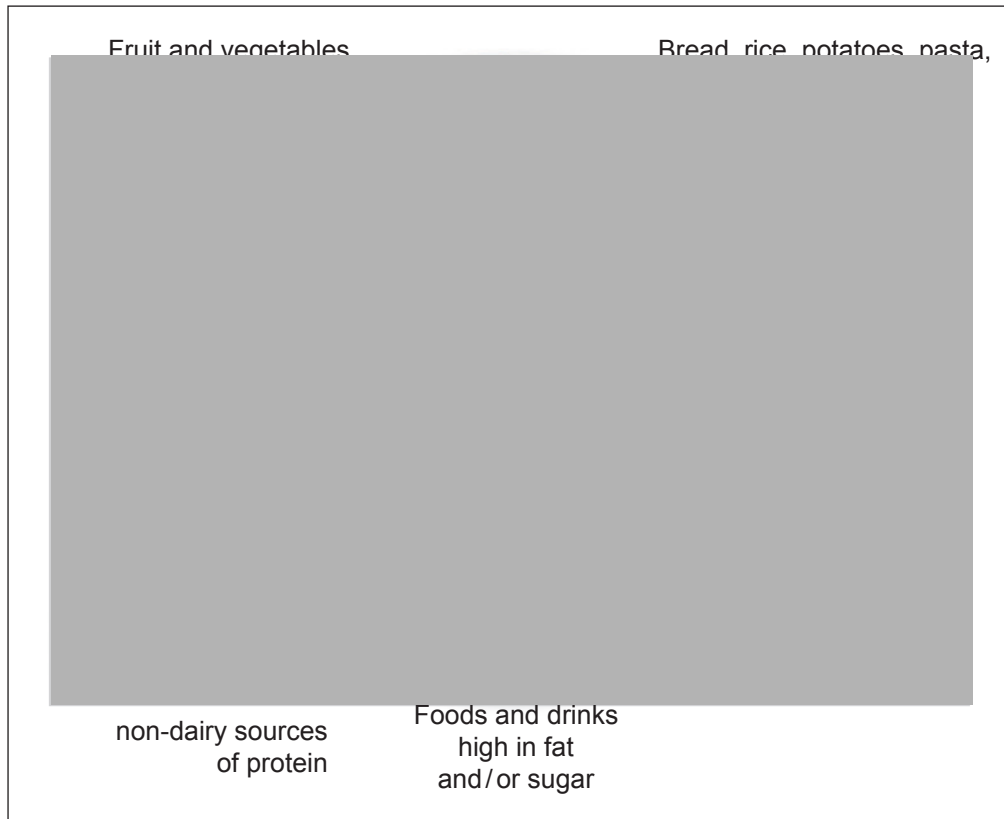
SPF 30+ sunscreen is meant to protect you from sunburn for **30** times longer if you use it regularly.

- (f) How many **hours** can a person be in the sun with SPF 30+ sunscreen on, without burning?

hours

QUESTION THREE: Vegetables

The image below shows the fractions of each food group you should eat every day.

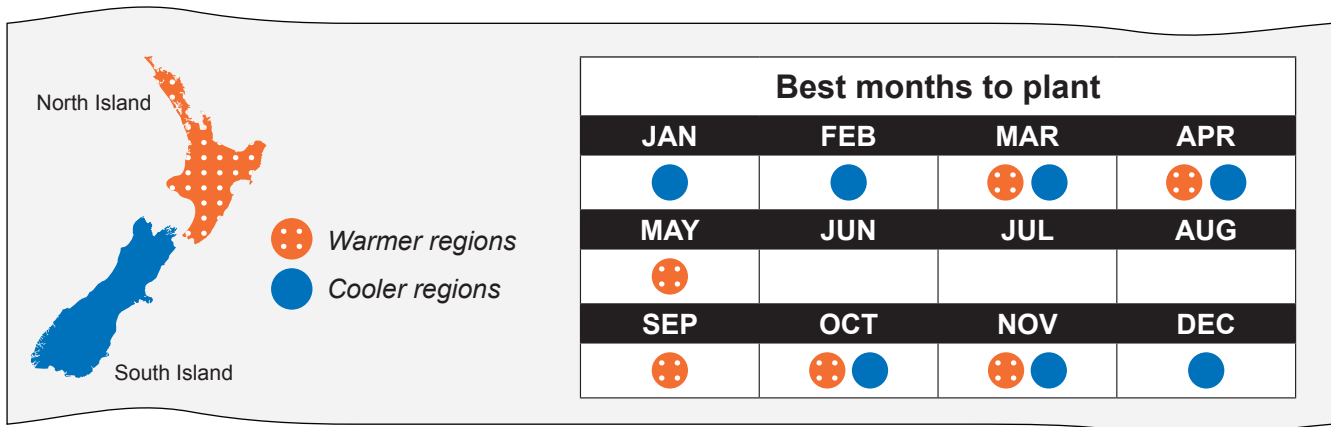


You need to eat **five** servings of fruit and vegetables every day to stay healthy.

- (a) How many servings, in total, should you eat every day from each of the food groups?

servings

The image below is from the back of a packet of carrot seeds. It shows the best months to plant the seeds in the different regions of New Zealand.



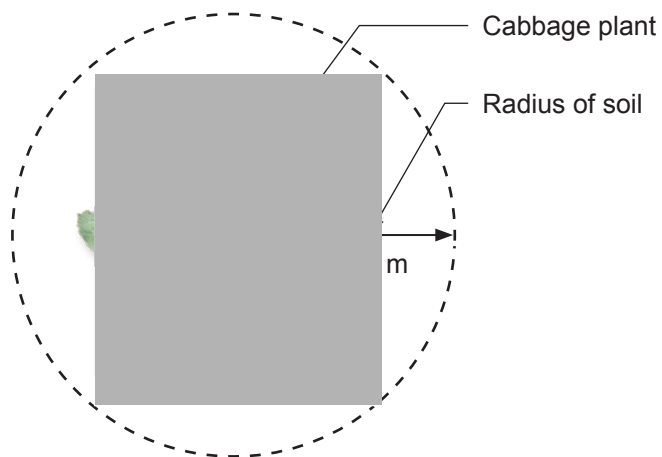
You buy the carrot seeds in **June**.

- (b) What is the earliest month after buying that you should plant the carrot seeds in the North Island?

Select (✓) the correct month.

- (i) ☐ JUL
- (ii) ☐ AUG
- (iii) ☐ SEP
- (iv) ☐ OCT
- (v) ☐ NOV

Cabbages grow well when they have their own circle of soil with a radius of about 25 centimetres.



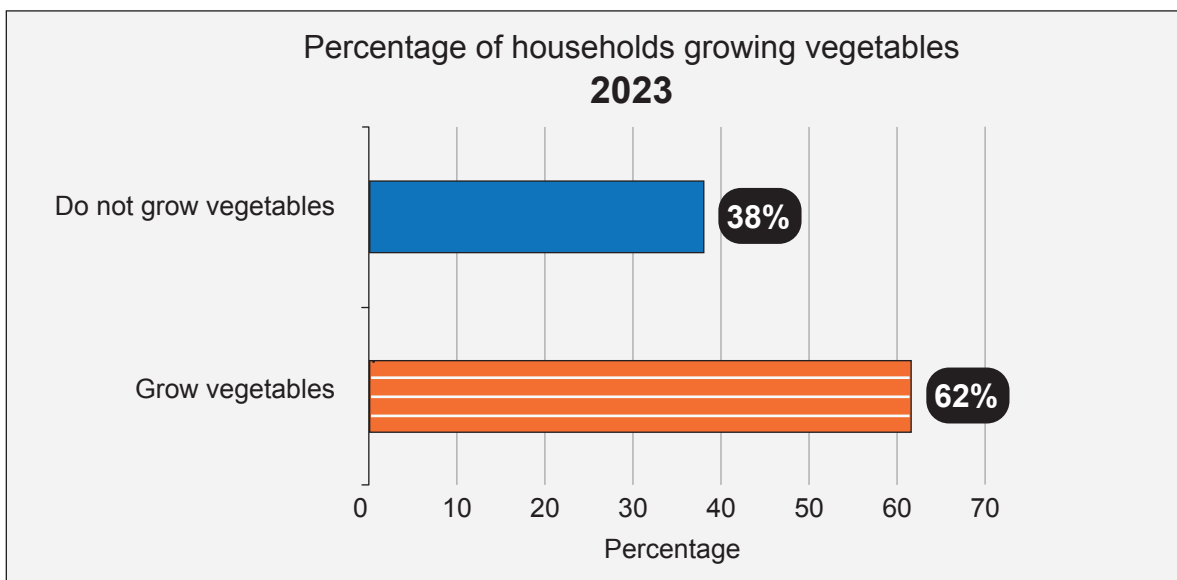
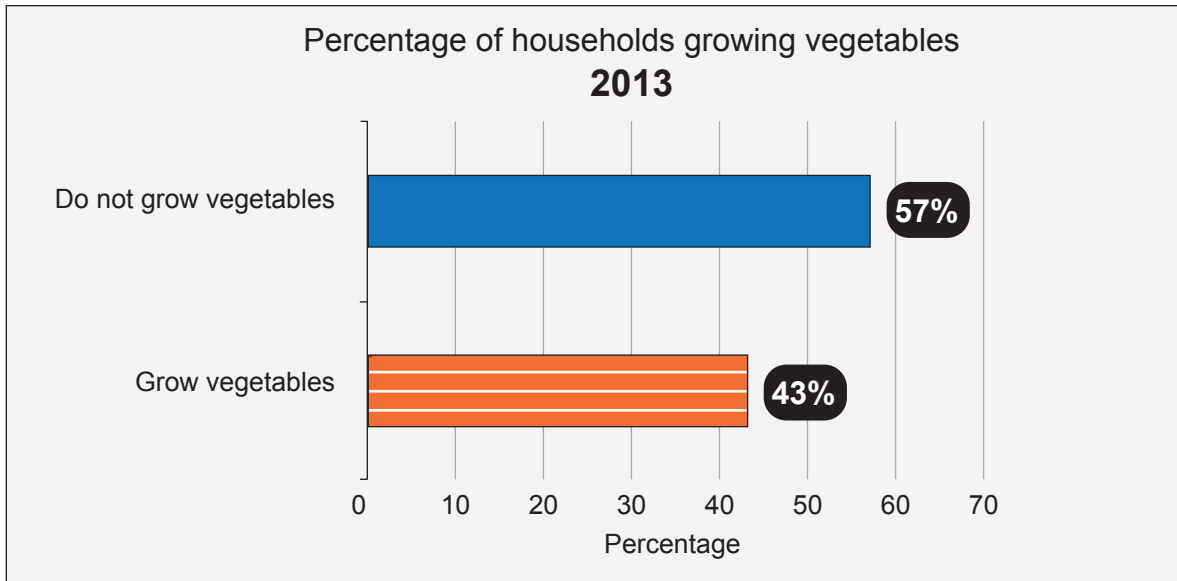
A rectangle-shaped garden measures 2 metres by 4.5 metres.



- (c) What is the greatest number of cabbages that can be planted in the garden, so that they grow well?

cabbages

The graphs below show the percentage of households in New Zealand that grew vegetables in 2013 and 2023.



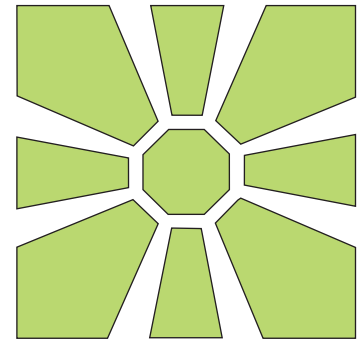
(d) Select (✓) **one** statement that **correctly uses** information from the graphs.

- (i) ☐ Households ate less vegetables in 2013 than in 2023.
- (ii) ☐ About three in every five households grew vegetables in 2023.
- (iii) ☐ Within 10 years, there was a 62% increase in households growing vegetables.
- (iv) ☐ Fewer households grew vegetables in 2023 than in 2013.

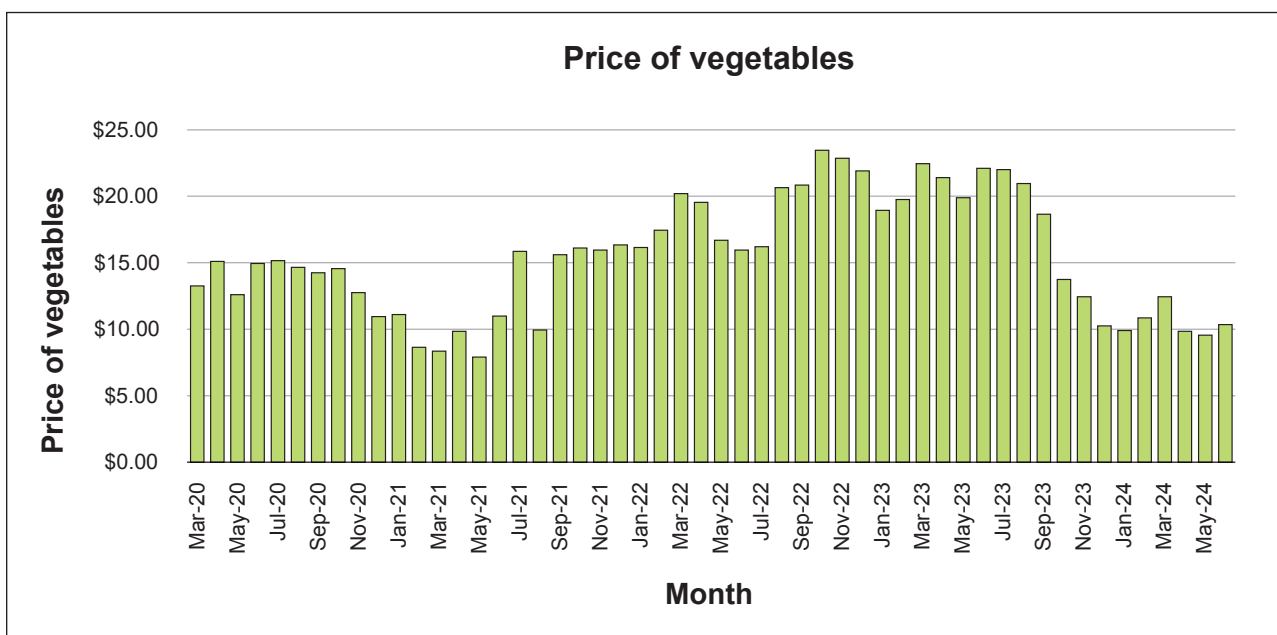
This image shows a design for a vegetable garden.

- (e) How many lines of symmetry does this design have?

lines of symmetry



This graph shows how the price of vegetables has changed over time.



The price of vegetables in New Zealand changes during the year, depending on the weather. An online post reads, “Vegetable prices are usually lowest in May.”

- (f) Is the headline correct? Use months and prices from the graph to explain your answer.

QUESTION FOUR: E-scooters

An e-scooter can be bought by paying the cash price or by paying it off over 18 months.

E-SCOOTER

Cash price of \$1,
OR
18-month plan

Pay \$300 now, and
6-monthly payment

- (a) How much **more** does it cost to use the 18-month plan than paying the cash price?

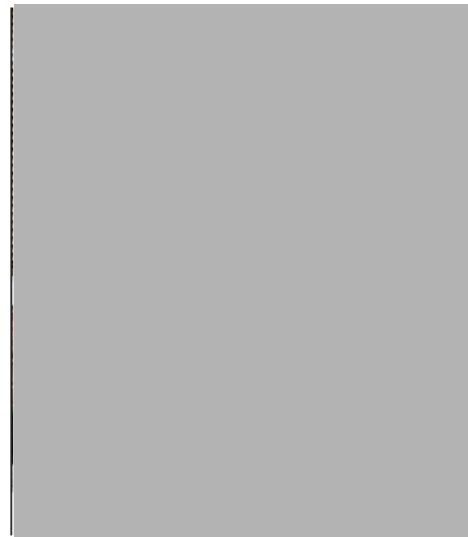
\$

It costs 36 cents per minute plus \$1.20 hire fee for Gina to ride an e-scooter.

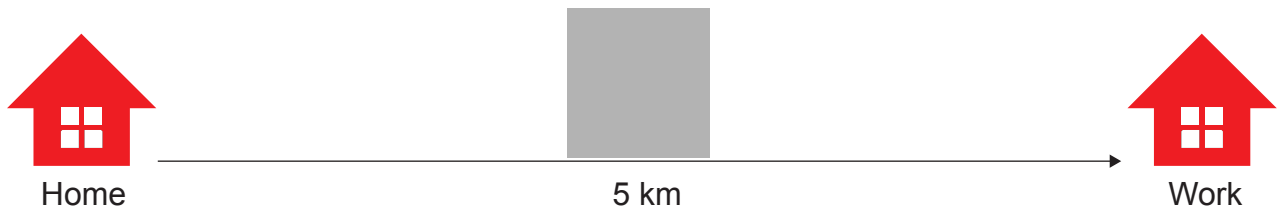
She rides the e-scooter for 18 minutes.

- (b) How much does Gina pay?

\$



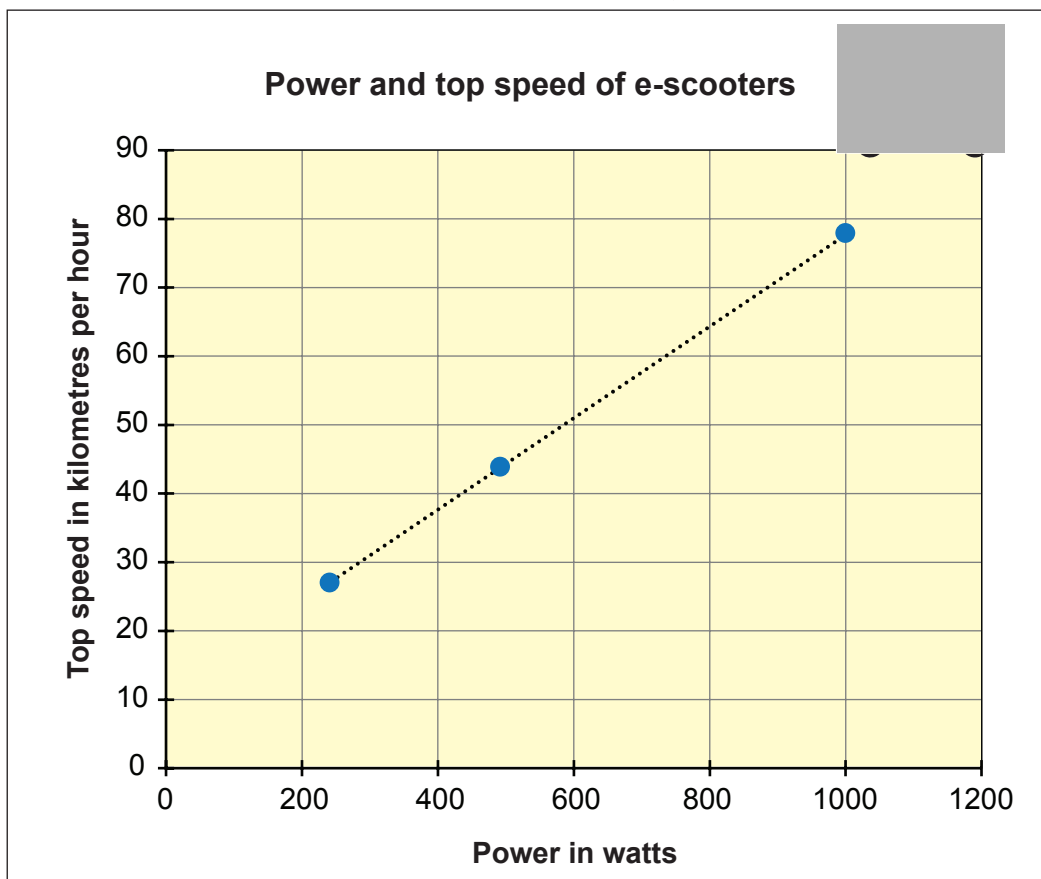
A person travels 5 kilometres on an e-scooter. They ride an average speed of 20 kilometres per hour.



- (c) About how many **minutes** does the trip take?

minutes

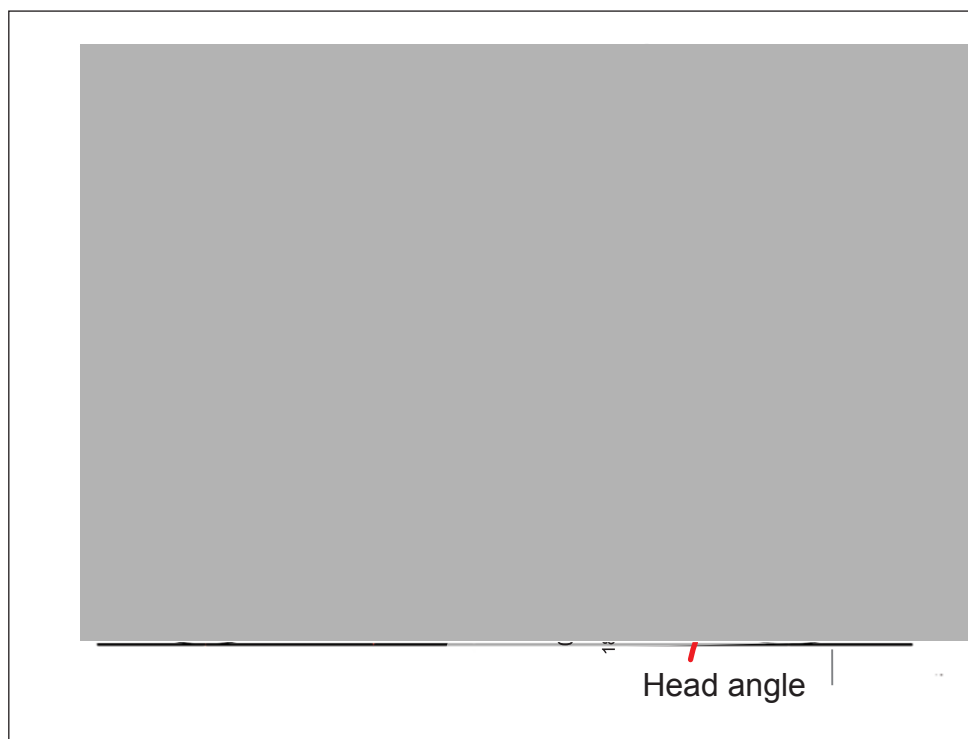
Below is a graph showing e-scooter power and speed.



- (d) Use the graph above to estimate the top speed of an e-scooter that has **300** watts of power. Give your answer as a whole number.

kilometres per hour

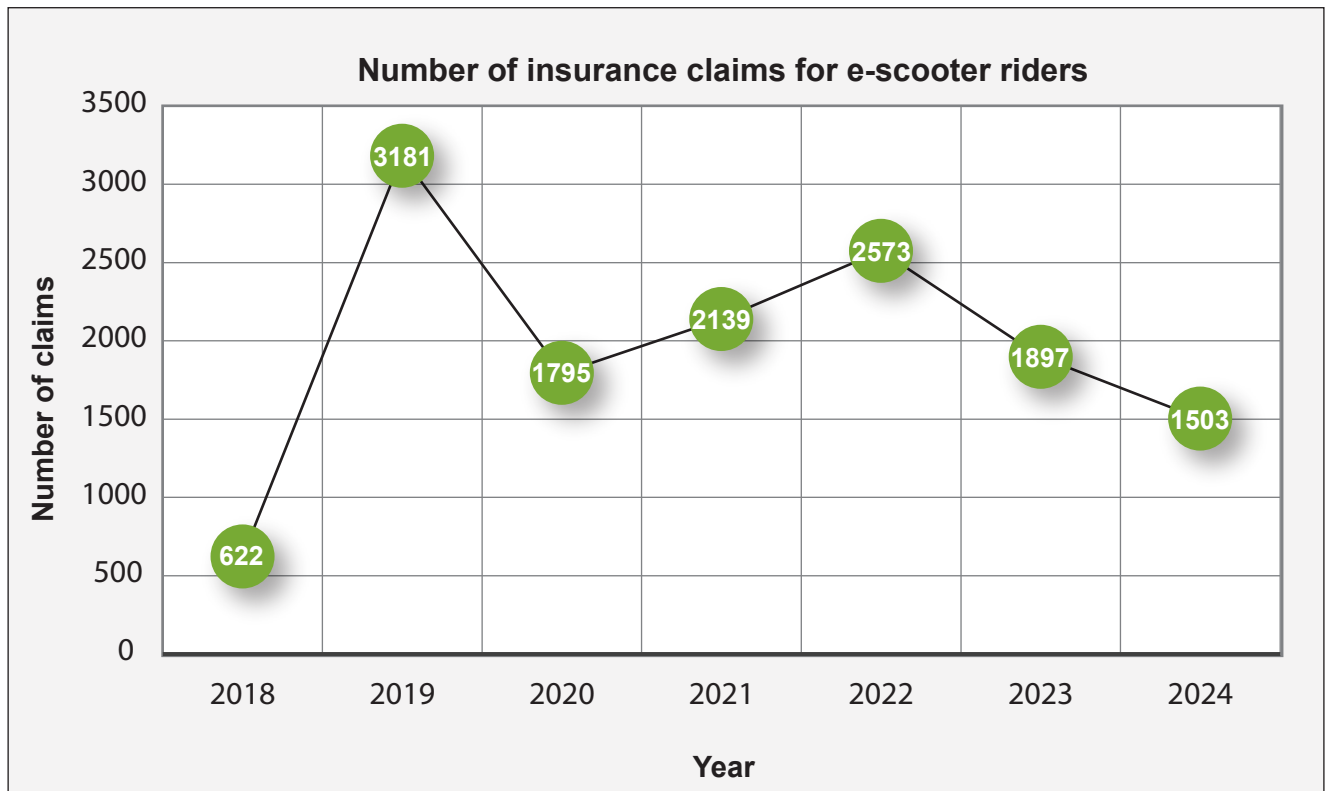
Here is a side-view diagram of an e-scooter.



- (e) Measure the head angle of the e-scooter. Give your answer as a whole number.

°

The following graph shows the number of insurance claims made by e-scooter riders from 2018 to 2024.



- (f) Does the graph show that e-scooter riders are making more insurance claims over time? Use information from the graph to explain your answer.

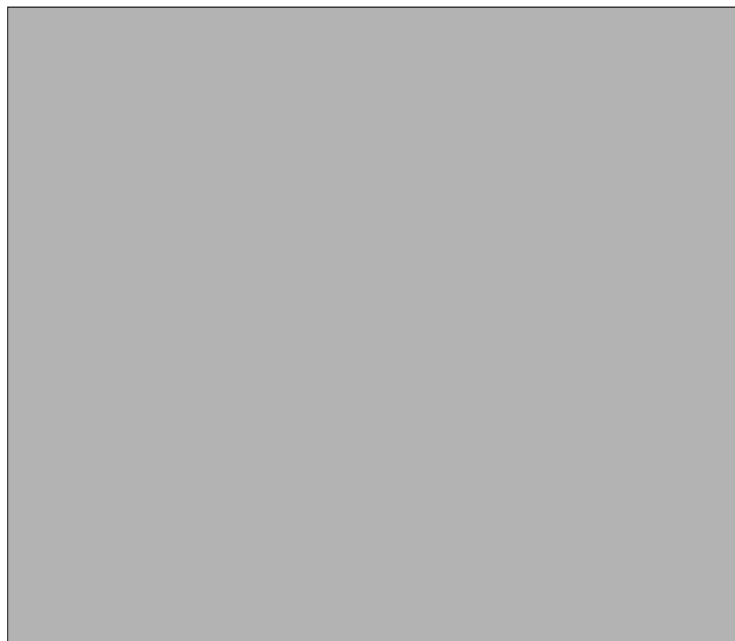
QUESTION FIVE: Swimming

The North Island has about 4,044,600 people. About 69% of them can swim or float in water.

(a) In the North Island, about how many people can swim or float in water?

- (i) ☐ 1.3 million
- (ii) ☐ 2.0 million
- (iii) ☐ 2.4 million
- (iv) ☐ 2.8 million
- (v) ☐ 3.9 million

In the image below, the swimmer's arm dips into the water at an angle.



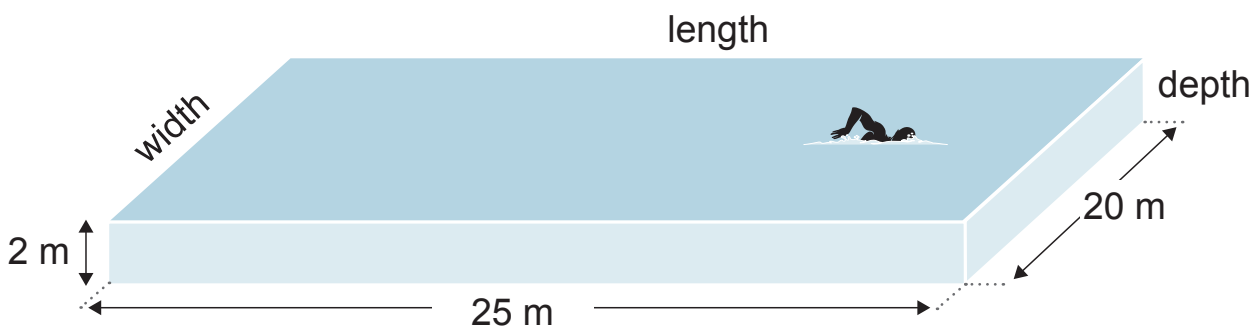
- (b) Does the angle measure 30° ? In your answer, explain how the angle can be estimated without using a protractor.

Tui swims 50 metres in 40 seconds.

- (c) What is Tui's average swimming speed, in metres per second?

metres per second

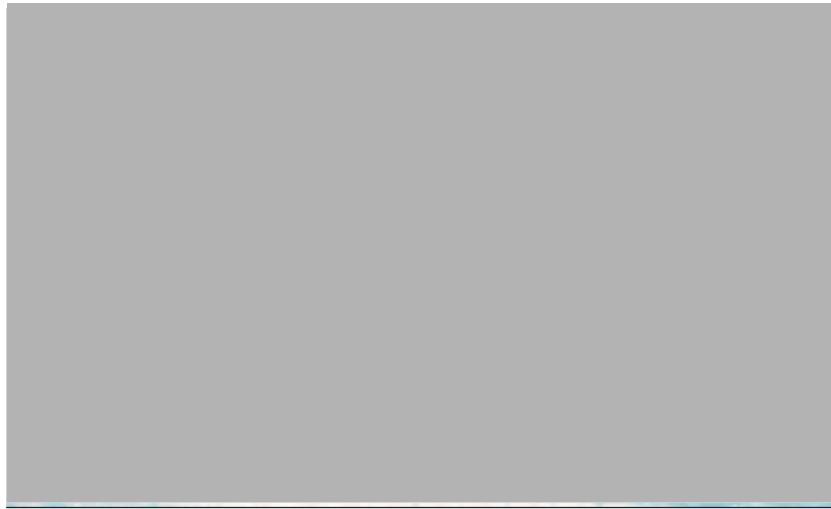
The diagram below shows the dimensions of a swimming pool.



- (d) How many cubic metres (m^3) of water are in the pool?

m^3

Here is an image of a 100-metre swimming final at the 2024 Olympics.



This table shows the swimming times of the three Olympic medal winners.

Gold medal	Silver medal	Bronze medal
49.90 seconds	49.99 seconds	50.45 seconds

- (e) “The silver medallist was only **one tenth of a second** slower than the gold medallist.”
Is that statement correct? Use a calculation with decimals to explain your answer.

Caitlin O'Reilly swam across Cook Strait at the age of 12. The yellow line in the picture shows the path she took. She started near Wellington.



(f) Which direction best describes her path across the Strait?

- (i) ☐ Between East and North-east
- (ii) ☐ Between West and South-west
- (iii) ☐ Between East and South-east
- (iv) ☐ Between West and North-west

Extra space if required.
Write the question number(s) if applicable.

[illegible]

**Extra space if required.
Write the question number(s) if applicable.**

QUESTION
NUMBER

Acknowledgements

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

Question One

Page 2, Page 4: Movie poster, created using generative AI

Page 5: Popcorn combo, <https://www.hebervalleyentertainment.com/product-page/combo-lrg-popcorn-2-drinks-refillable>

Page 5: Ice cream cone, https://toppng.com/free-image/vanilla-ice-cream-png-PNG-free-PNG-Images_129571

Page 5: Popcorn box, <https://bcsfoodpak.co.nz/products/food-packaging/paper-cardboard-products/popcorn-boxes>

Question Two

Page 6: Skeleton, <https://www.britannica.com/science/human-skeleton>

Page 7: Head proportions diagram, https://www.researchgate.net/figure/Changes-in-body-proportions-from-birth-to-adulthood-in-years-and-the-differences-in-head_fig9_342526922

Page 8: AED, <https://reliancemedical.co.nz/collections/aed>

Page 8: CPR, <https://www.drugs.com/cg/adult-cpr-steps.html>

Page 10: Sunscreen, <https://cosmocosmetics.in/products/sunblock-cream-spf-50>

Question Three

Page 11: Healthy plate, <https://www.oxfordmartin.ox.ac.uk/blog/official-healthy-food-guide-hasnt-changed-in-20-years-five-things-that-need-updating>

Page 13: Cabbage seedling, <https://media.istockphoto.com/id/176821347/photo/cabbage-sprout.jpg>

Question Four

Page 16: E-scooter, <https://electricscootershop.co.nz/collections/scooters>

Page 16: Girl on e-scooter, <https://www.pbtech.co.nz/product/HEASGW0036/Segway-Ninebot-ES1L-Kick-Scooter---Dark-Grey-Max-S>

Page 17: Silhouette of man on scooter, <https://www.vectorstock.com/royalty-free-vector/silhouette-of-a-man-riding-an-electric-scooter-vector-53899289>

Page 17: Scooter icon in graph, https://www.freepik.com/premium-vector/electric-scooter-black-icon-e-bike-flat-style-vector-illustration-isolated_38126735.htm

Page 18: E-scooter diagram, <https://swiftyscooters.com/blogs/journal/e-scooter-safety-and-design>

Question Five

Page 20: Person floating, <https://www.wikihow.com/Float-on-Your-Back#/Image:Float-on-Your-Back-Step-9-Version-2.jpg>

Page 21: Person swimming, Freestyle Swimming. (2025, 5 June). Freestyle Rotation: Rock Not Roll? [video]. YouTube. <https://www.youtube.com/watch?v=5eDQ6QIVFEw>

Page 23: Swimming final, <https://olympic.ca/wp-content/uploads/2024/08/CAW04268.jpg>

Page 24: Cook Strait map, <https://images.squarespace-cdn.com/content/v1/5d573fbd76eb470001e99543/1569363325875-RBJ18AE9B8P7TNB9YCZA/Cook+strait.jpg>

