

To be completed by candidate

NSN

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School Code

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SUPERVISOR'S USE ONLY

32406 TERM 2

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 | 26–30 MAY 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.

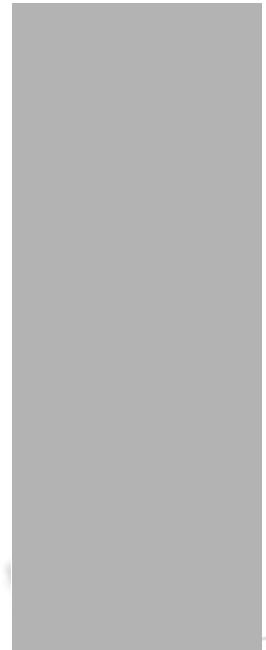
YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

QUESTION ONE: Mum needs help

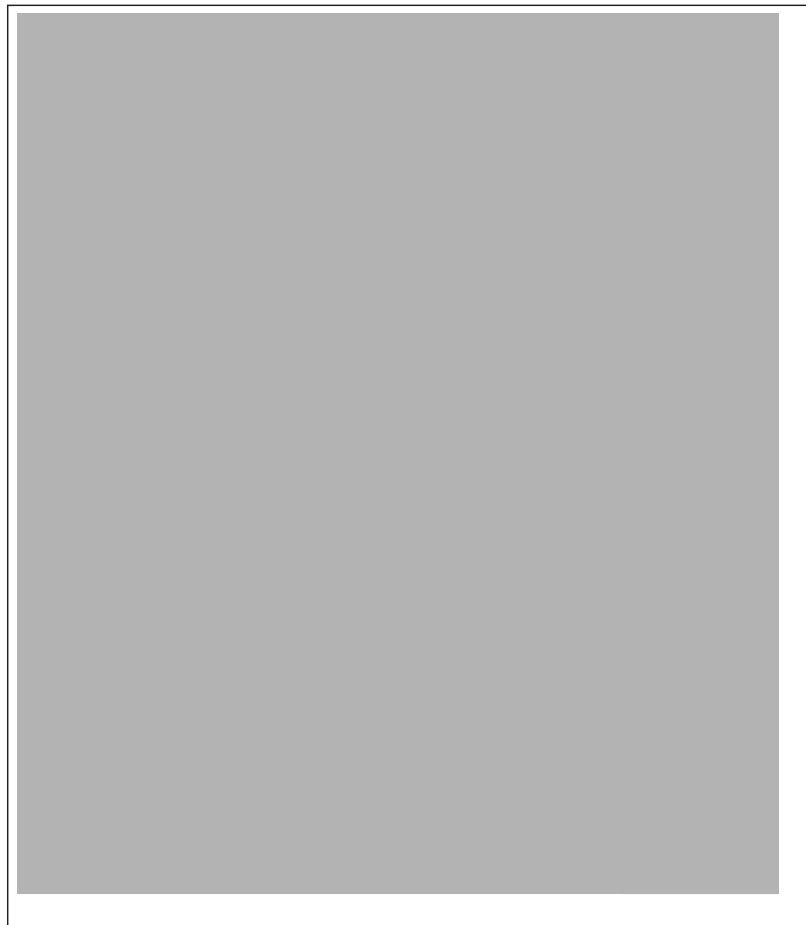
Mum will be on crutches for four weeks.

She says, "Four weeks is about 40,000 minutes".

- (a) Is she right? Use time calculations to explain your answer.



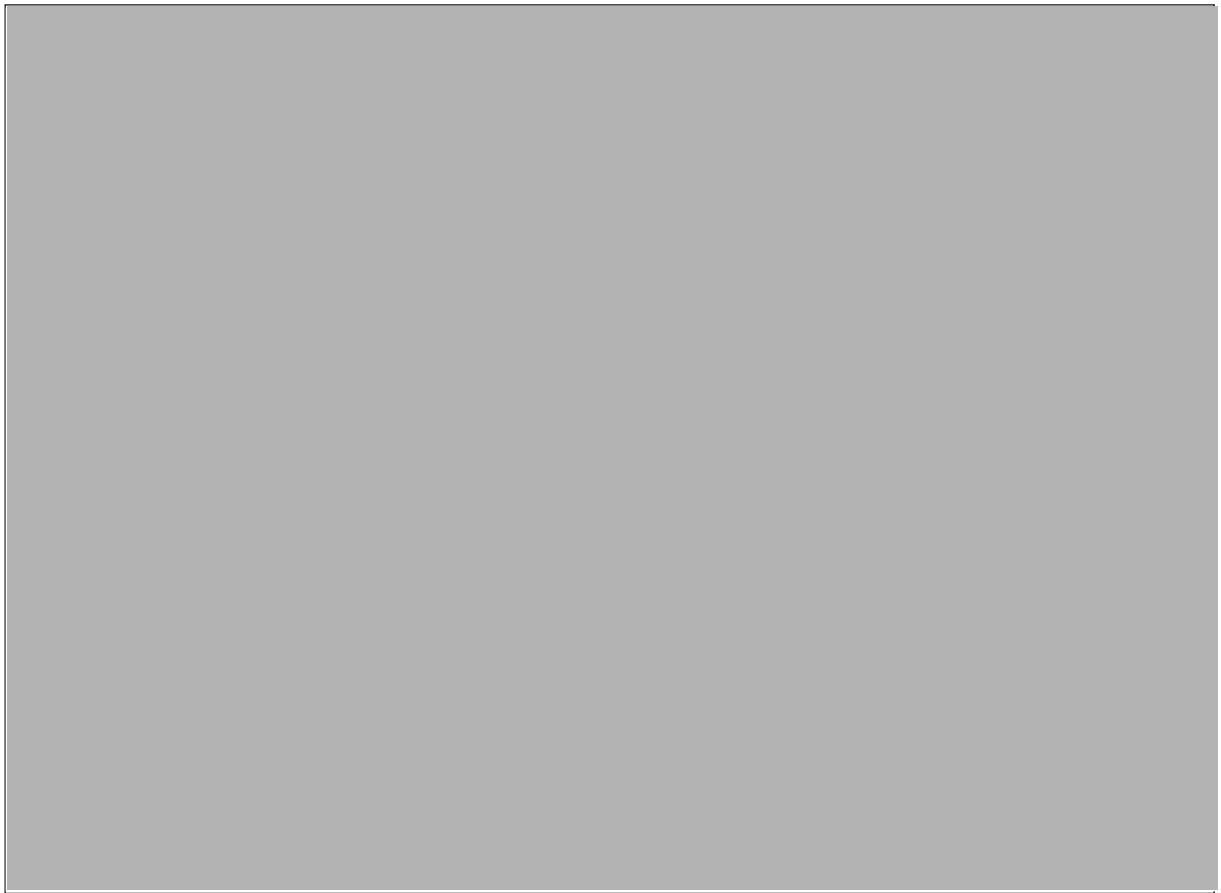
Mum's crutches need to be set so that her arm is bent at the correct angle.



- (b) How many degrees is the correct angle?

°

A friend takes Mum's dog for a walk. The dashed line on the map shows the path they take. The **X** marks about 900 metres along the path from the start of the walk.



(c) Tick (✓) the letter that shows the correct scale for this map.

A ☐ B ☐ C ☐ D ☐ E ☐

Mum needs to have a garden box filled with dirt to grow vegetables.



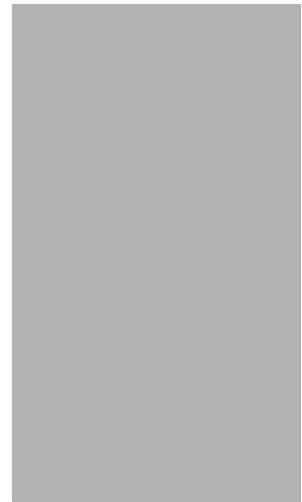
- (d) How many cubic metres (m^3) of dirt are needed?

 m^3

Dad puts 5 kilograms of clothes into the washing machine.

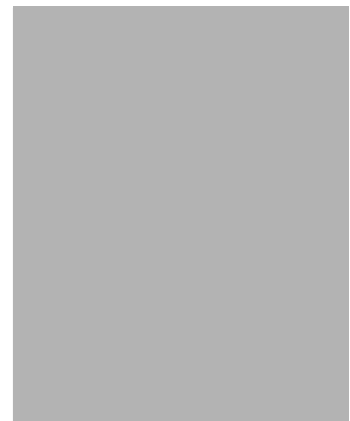
After washing, the wet clothes weigh 1.8 times as much as the dry clothes did.

- (e) How much do the **wet** clothes weigh, in kilograms?

 kg


Mum notices that the 240-litre rubbish bin is $\frac{3}{4}$ full.

- (f) How much space, in litres, is **left** in the bin?

 L


QUESTION TWO: Jackets

Jackets come in different sizes.

Size	Chest (cm)	Waist (cm)	Sleeve (cm)
X-Small	86–88	71–73	81–83
Small	89–95	74–76	84–85
Medium	96–105	77–84	86–88
Large	106–111	85–94	89–90
X-Large	112–122	95–101	91–93

Jack’s arm (sleeve length) measures 88 cm, and his chest measures 110 cm.



Jack thinks that a size ‘Large’ will be the best jacket size to buy.

(a) Do you agree? Use measurements from the table to explain your answer.

The price of this jacket is usually \$179.

On sale, you get 30% off.

(b) What is the sale price of the jacket?

\$



Sometimes, jackets have a temperature-range guide.



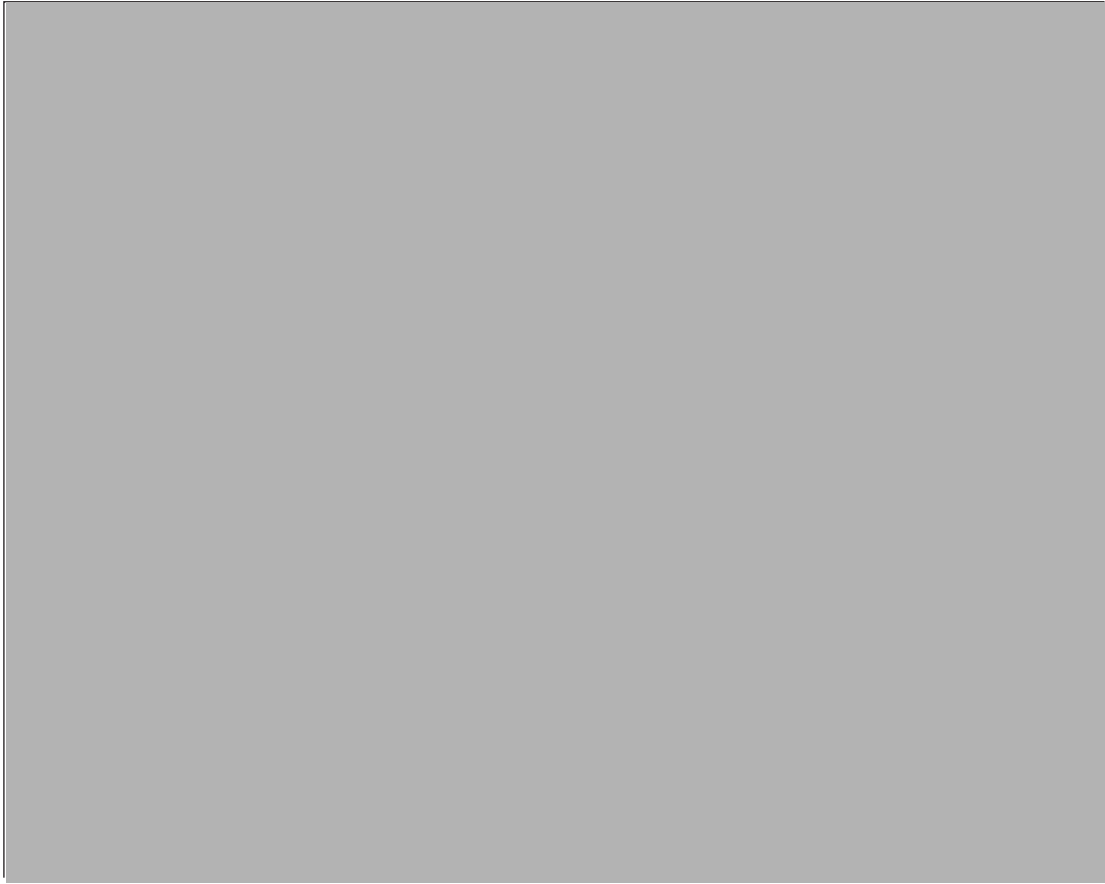
Jacket temperature-range guide.

(c) Tick (✓) the temperature range that a heavy-weight jacket is made for.

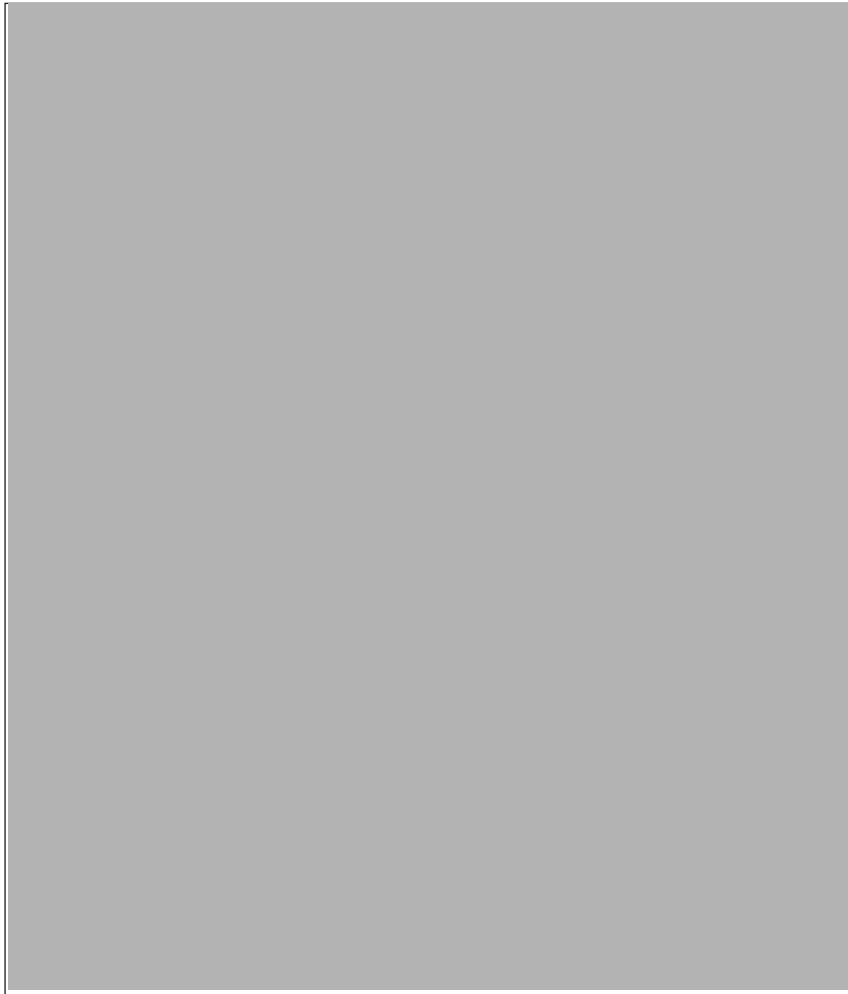
- (i) 10 °C to 20 °C ☐
- (ii) -1 °C to 10 °C ☐
- (iii) -6 °C to -1 °C ☐
- (iv) -20 °C to -6 °C ☐
- (v) -30 °C to -20 °C ☐

A jacket keeps you warmer if it has a higher fill quality (FQ).

Here are the FQs, weights, and prices of three jackets.



- (d) Is it true to say “Jackets with high FQ cost more, but weigh less, than low-FQ jackets?”
Use numbers from any two jacket tags to explain your answer.

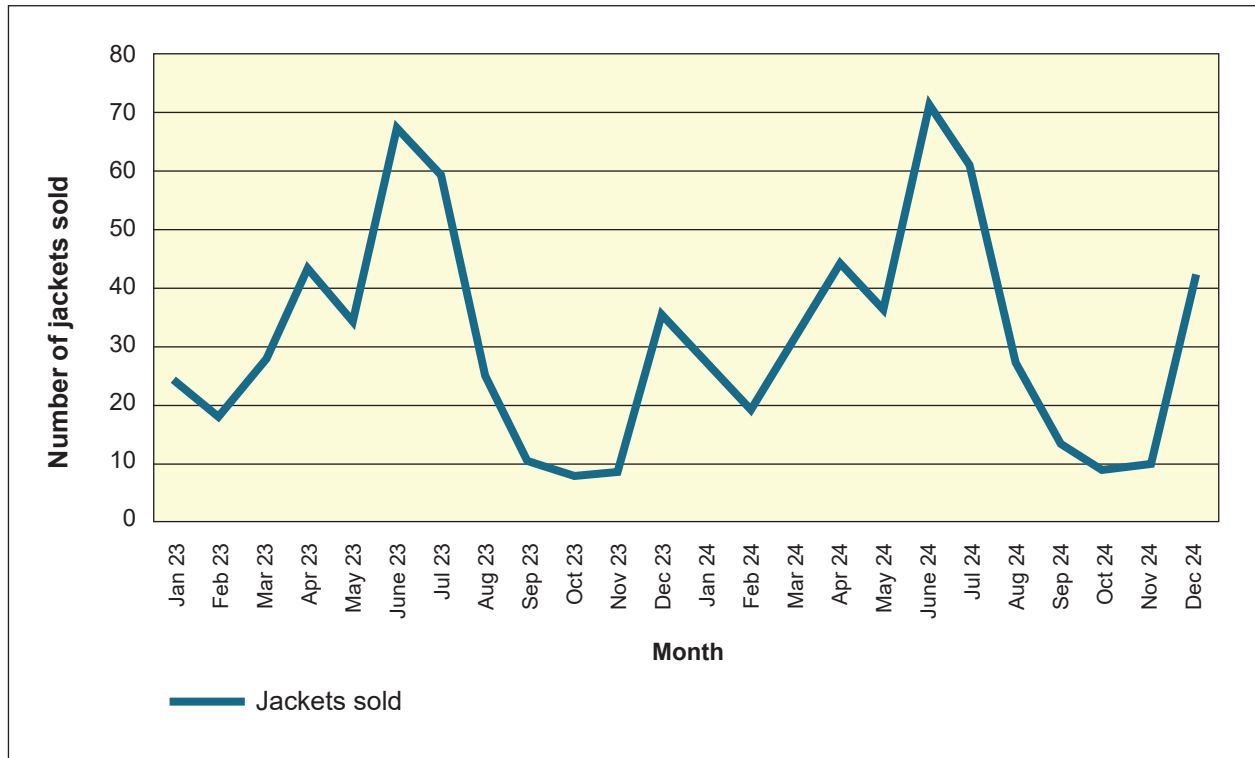


While testing a jacket, the inside temperature of the jacket was measured at 13.4°C . The outside temperature was measured at -6.2°C .

- (e) What is the difference between 13.4°C and -6.2°C ?

 $^{\circ}\text{C}$

The graph below shows how many jackets are sold at a shop during 2023 and 2024.



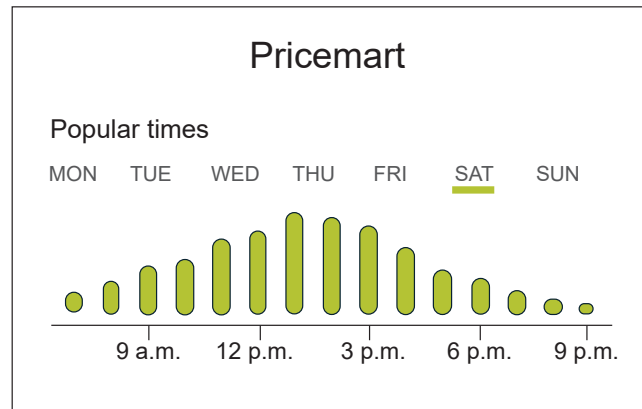
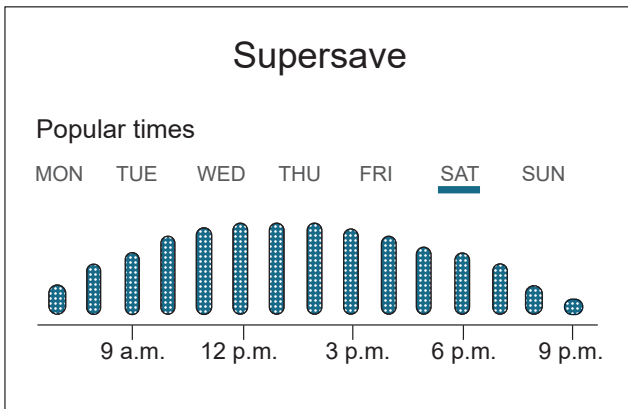
Note: June, July, and August are the coldest months. December, January, and February are the hottest months.

“More jackets are sold when the weather is cold than when it is hot.”

(f) Do you agree? Use information from the graph to explain your answer.

QUESTION THREE: Supermarket shopping

You want to shop on a Saturday any time after 12 p.m. You like a supermarket with lots of people in it.



- (a) Which supermarket should you choose, Supersave or Pricemart, and what time should you go?

Use information from the graphs to explain your answer.

The price of bananas is \$3.29 per kilogram.

- (b) How much will it cost for a bunch of bananas that weighs 760 grams? Round your answer to the nearest cent.



\$



A line of **five** supermarket trolleys is 192 centimetres long.



A line of **three** supermarket trolleys is 144 centimetres long.



Notice how each trolley fits inside the one in front.

- (c) When one extra trolley is added to either line, how much does the total length of the line increase by? Write your answer in centimetres.

cm

A 1-kilogram block of cheese costs \$13.79, a 500-gram block of the same cheese costs \$8.19, and a 250-gram block of the same cheese costs \$6.19.



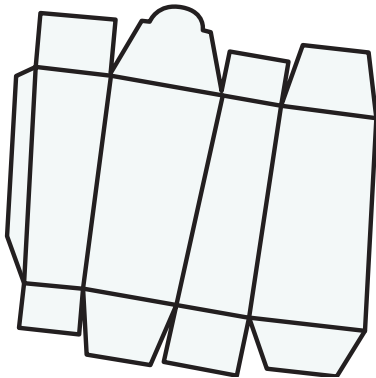
- (d) Is the 500-gram block of cheese the cheapest per 100 grams out of the three blocks of cheese? Use the weights and prices to explain your answer.

The image below shows a Cadbury *Favourites* packet.

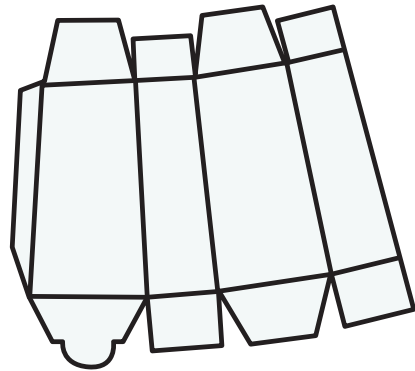


(e) Tick (✓) the net (flat pattern) that would fold to make the *Favourites* packet.

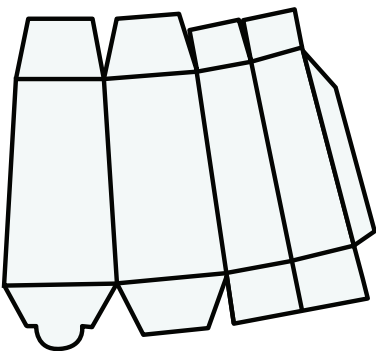
(i)



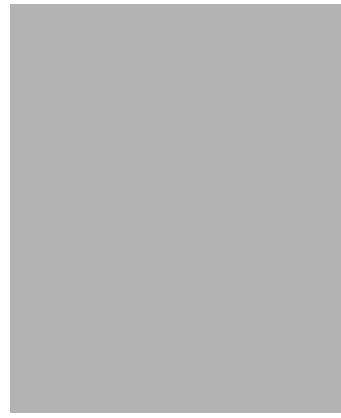
(ii)



(iii)



The container shown below holds 900 grams of baby formula.



One scoop of baby formula.

You can make one feed for a baby from two scoops of formula mixed with water.

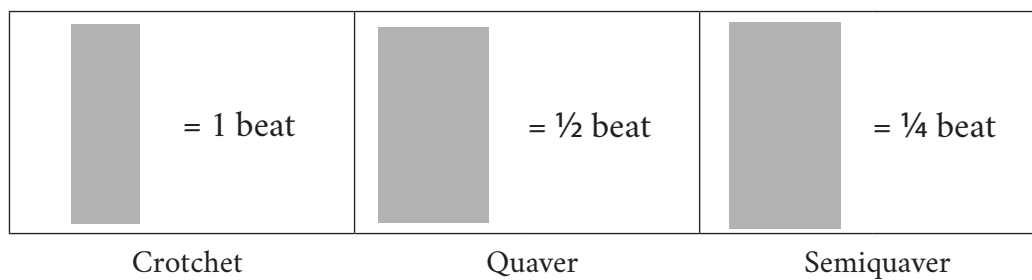
Two scoops of formula weigh 14.4 grams in total.

- (f) How many feeds can be made from the 900 gram container?

feeds

QUESTION FOUR: Music

The beat in music is made up of notes of different lengths.



(a) Tick (✓) the set of notes that adds together to make a **total** of four beats.

(i)

☐

(ii)

☐

(iii)

☐

(iv)

☐


This is a famous album cover. The cover has a lot of mirror symmetry.



(b) Look carefully at the cover. From the list below, tick (✓) the TWO parts of the picture **that have** mirror symmetry.

- (i) Eyes ☐
- (ii) Trees ☐
- (iii) Sky ☐
- (iv) Building ☐
- (v) Noses ☐

On average, people listen to 884 hours of music per year. There are 52 weeks in one year.

- (c) How many hours **per week**, on average, do people listen to music?

hours per week

The table below shows the different types of songs on a playlist. There are 200 songs altogether.

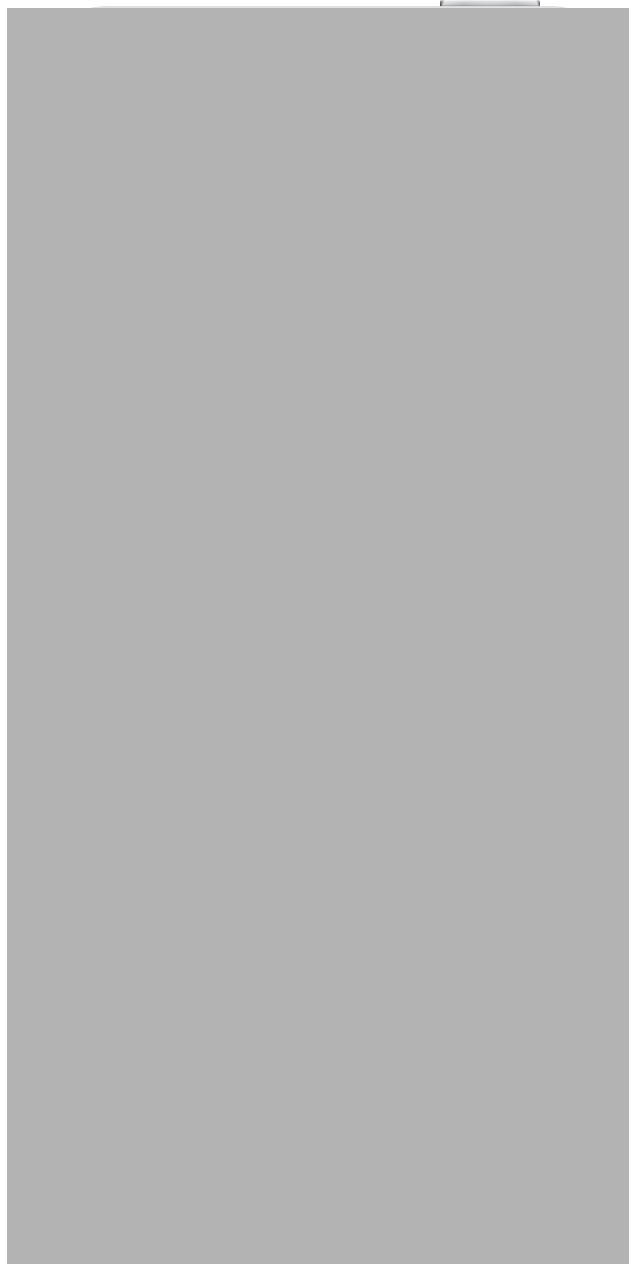
Type	Count
Pop	40
Rock	70
Rap	39
Other	51

- (d) If one song is picked at random, what is the probability that it will be a rock song?

Write your answer as a percentage.

%

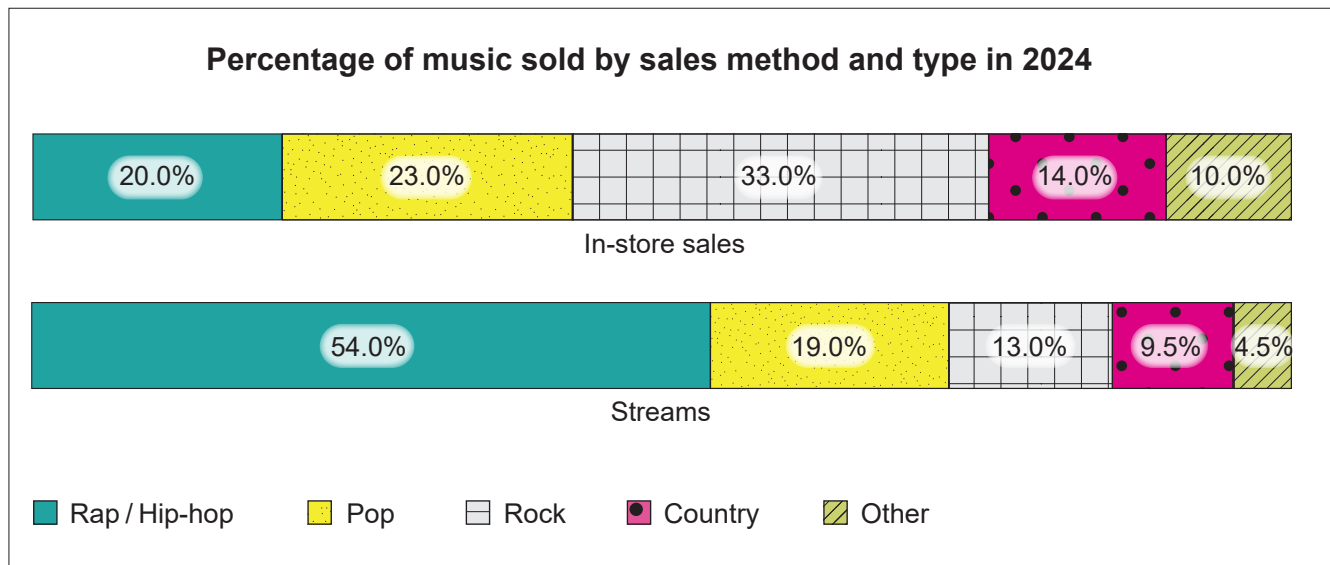
The table below shows how much an artist gets paid each time someone streams their song. There are seven different streaming platforms.



“Tidal gives artists the best deal.”

(e) Do you agree? Use numbers from the table to explain your answer.

This graph compares the music sold in stores with the music sold by streaming platforms.



(f) From the list below, tick (✓) the TWO statements that are true.

(i) About $\frac{1}{3}$ of in-store sales are rock.

☐

(ii) More than $\frac{1}{5}$ of streams are pop.

☐

(iii) Less than 10% of in-store sales are country.

☐

(iv) Over $\frac{1}{2}$ of streams are rap / hip-hop.

☐

(v) $\frac{3}{4}$ of all music is bought in-store.

☐

QUESTION FIVE: Seals

A mother seal is 1.68 metres long.

Her newborn pup is 0.48 metres long.

- (a) How many times **longer** is the mother seal than her pup?

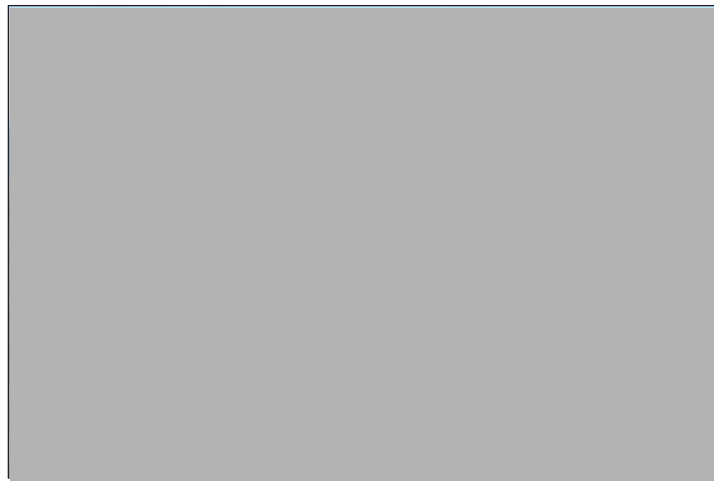
times longer



A mother seal and her pup.

Seals must eat between 4% and 6% of their body weight in food each day.

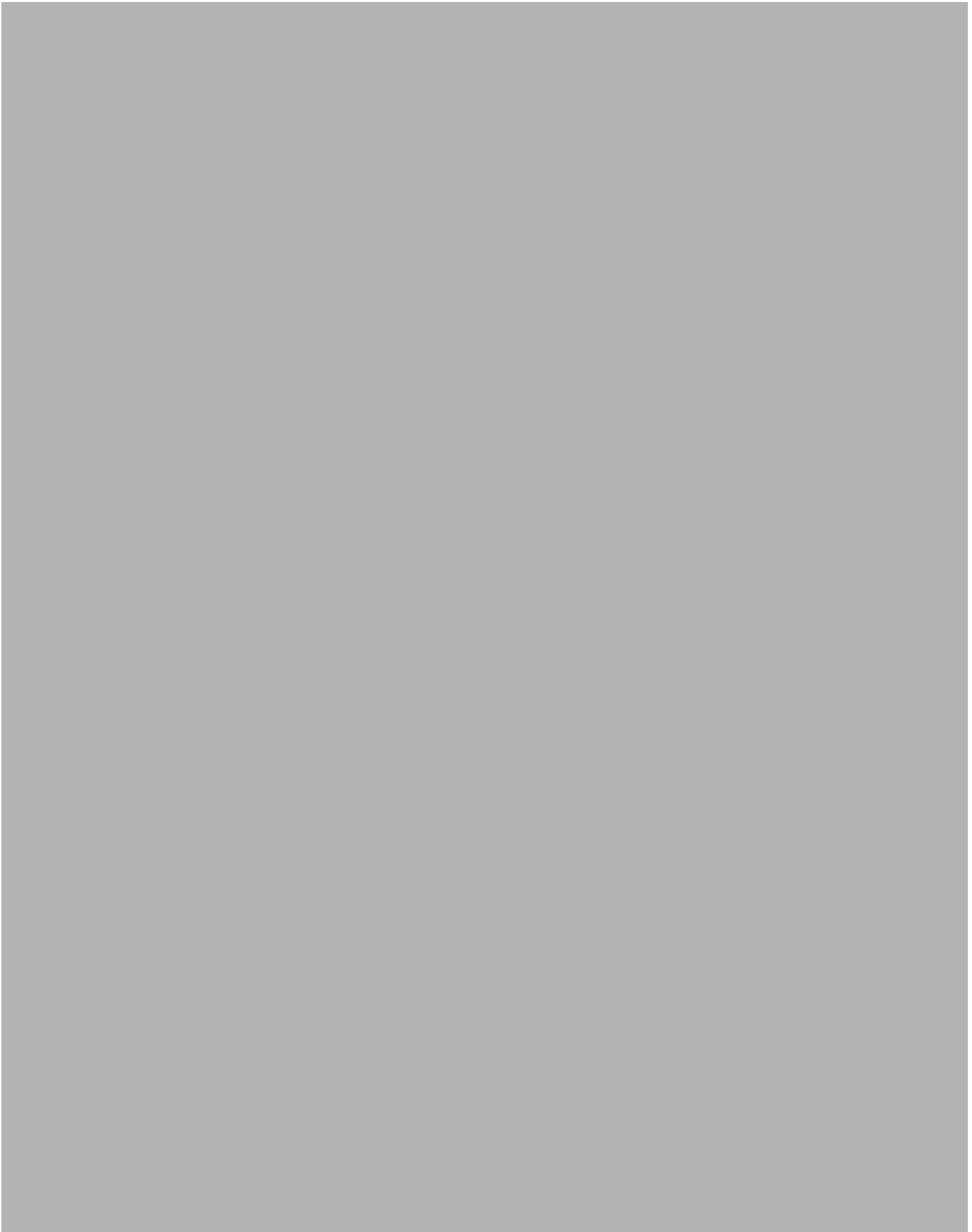
This seal weighs 148 kilograms.



- (b) What is the **minimum** amount of food this seal must eat each day?

kg

Places where seals can be found are shown as letters on the map below.



(c) Tick (✓) where seals can be found at 50.3° S and 167° E.

A ☐

B ☐

C ☐

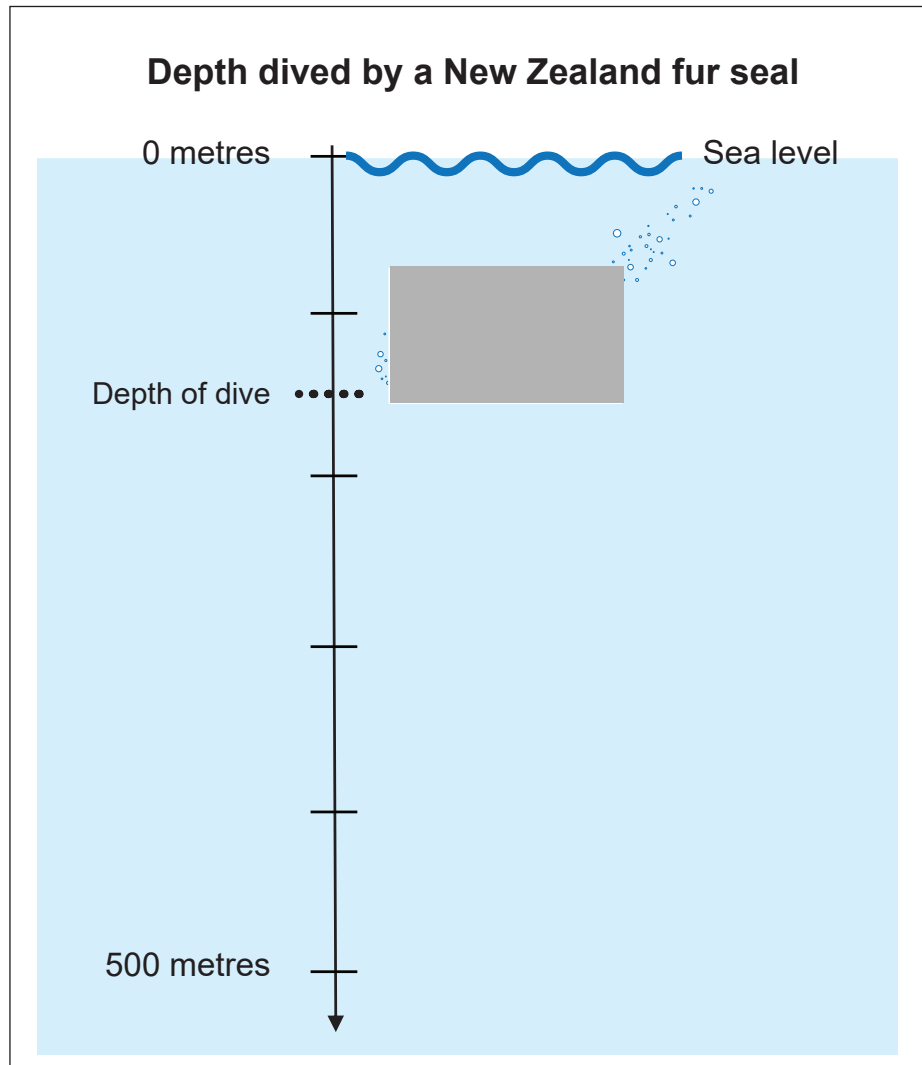
D ☐

E ☐

F ☐

Seals are excellent divers.

This number line shows the depth dived by a New Zealand fur seal.

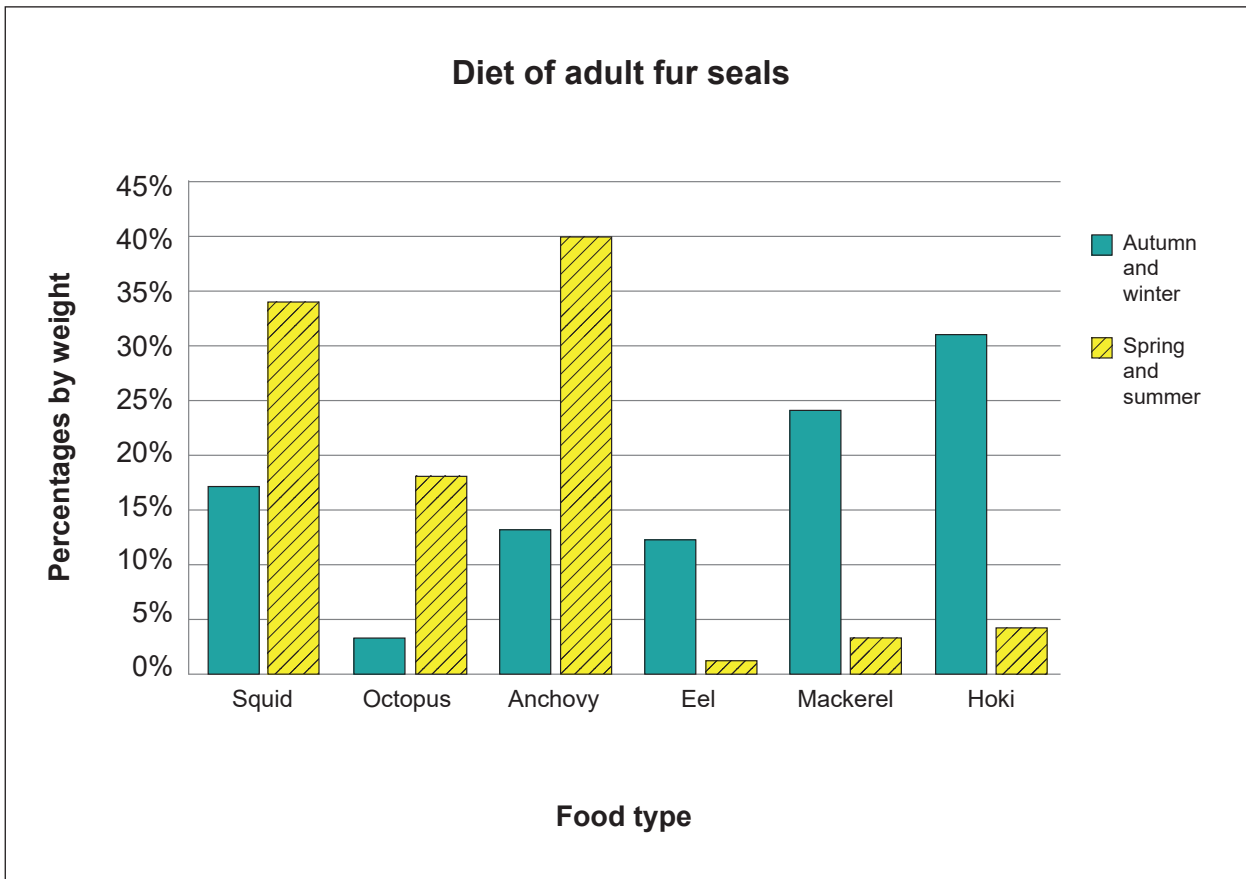


- (d) Estimate the depth the fur seal dived to.

metres below sea level

This graph shows what kind of food seals eat at different times of the year.

The different coloured bars show different halves of the year.



“In autumn and winter, seals eat mostly squid, mackerel, and hoki.”

(e) Do you agree? Use percentages from the graph to explain your answer.

The dots on the map show where seals have been located around a place called Ohau Point.

Ohau Point is shown by the yellow star.

The white dot shows where one seal swam to.



- (f) Use the scale on the map to estimate the distance from Ohau Point to the white dot.

km

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

QUESTION
NUMBER

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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: Woman on crutches, <https://stock.adobe.com/nz/images/woman-practicing-walking-on-crutches/249827144>
- Page 2: Figure outline, <https://static1.squarespace.com/static/54d96b48e4b04bc268f6fde7/t/552b3b68e4b043705b2a7386/1428896616631/Sizing+and+Using+Forearm+or+Elbow+Crutches.pdf>
- Page 2: Crutch, <https://www.mobilitycentre.co.nz/shop/crutches-walking-sticks/crutches/coopers-elbow-crutches-adult-single-adjustable-pair/>
- Page 2: Protractor, <https://stock.adobe.com/images/protractor-protractor-grid-for-measuring-degrees-tilt-angle-meter-measuring-tool-ai10/196681142>
- Page 3: Sports park, <https://www.landscapearchitecture.nz/landscape-architecture-aotearoa/2018/3/22/new-zealands-first-sustainable-sports-park-setting-a-new-direction>
- Page 4: Garden box, <https://stock.adobe.com> (created using generative AI)
- Page 4: Washing machine, <https://extremeappliances.co.nz/samsung-10kg-top-load-washer-wa10a8376gw/>
- Page 4: Bin, <https://rotaform.co.nz/products/wheelie-bin-80-litre>

Question Two

- Page 5: Man's chest, <https://taperedmenswear.com/blogs/tapered-blog/how-to-measure-chest-size>
- Page 6: Jacket, <https://dwights.co.nz/products/womens-rab-microlight-alpine-jacket?variant=48720739533095> (created using generative AI)
- Page 6: Sale label, <https://stock.adobe.com/images/set-of-red-sale-banners-on-white-background-ribbons-and-stickers-paper-scrolls-vector-illustration/384987350>
- Page 6: Thermometer, <https://stock.adobe.com/images/thermometer-graphics/80656743>
- Page 7: Three jackets, <https://stock.adobe.com> (adapted using generative AI)
- Page 7: Clothing label, <https://stock.adobe.com/images/white-cardboard-clothing-price-tag-isolated/529658651>
- Page 8: Body temperature thermometer, <https://stock.adobe.com/images/meteorological-thermometer-glass-tube-with-mercury-and-graphic-scale-degree-vertical-indoor-or-outdoor-temperature-measuring-tool-isolated-on-white-background-vector-flat-illustration/550138686>

Question Three

- Page 10: Bunch of bananas, <https://stock.adobe.com/images/5-five-bananas/27448166>
- Page 11: Supermarket trolley, <https://www.dreamstime.com/stock-illustration-shopping-carts-icon-line-sketch-doodle-style-metal-trolley-purchases-supermarket-white-background-symbol-sign-image81850982>
- Page 12: Favourites packet, <https://www.woolworths.co.nz/shop/productdetails?stockcode=631296&name=cadbury-chocolates-favourites>
- Page 13: Baby formula, <https://www.davidjonespharmacy.com.au/assets/full/847151.jpg>
- Page 13: Scoop, <https://smartmedia.digital4danone.com/is/image/danonecs/baby-formula-scoop-1-3>

Question Four

- Page 14: Music notes, <https://stock.adobe.com/images/music-notes-icon-set-music-notes-symbol-vector-illustration/439874275>
- Page 15: Album cover, <https://store.sonymusic.co.za/products/pink-floyd-the-division-bell-2016-version-2-lp>
- Page 17: Streaming, <https://latinwmg.com/que-es-musica-en-streaming/>
- Page 17: Cellphone, <https://stock.adobe.com/templates/smartphone-infographic-with-teal-ribbons/296420050>

Question Five

- Page 19: Mother seal and pup, <https://www.travelnaturephotography.com/prints/new-zealand-fur-seal-mum-pup>
- Page 19: Seal on rock, <https://animalia.bio/new-zealand-fur-seal/1000>
- Page 20: NZ map, https://as1.ftcdn.net/v2/jpg/02/67/07/84/1000_F_267078483_VKXnOzM0gpF4VVD892jNfhoEIRRX2h2O.jpg
- Page 21: Diving seal, https://as1.ftcdn.net/v2/jpg/00/90/53/02/1000_F_90530260_7SzOXdDW4zElbEq7XhIdbMIBfxXmozYl.jpg
- Page 23: Ohau seals map, <https://www.doc.govt.nz/globalassets/documents/conservation/marine-and-coastal/marine-protected-areas/monitoring-factsheets/fur-seals-tracking-technology.pdf>

