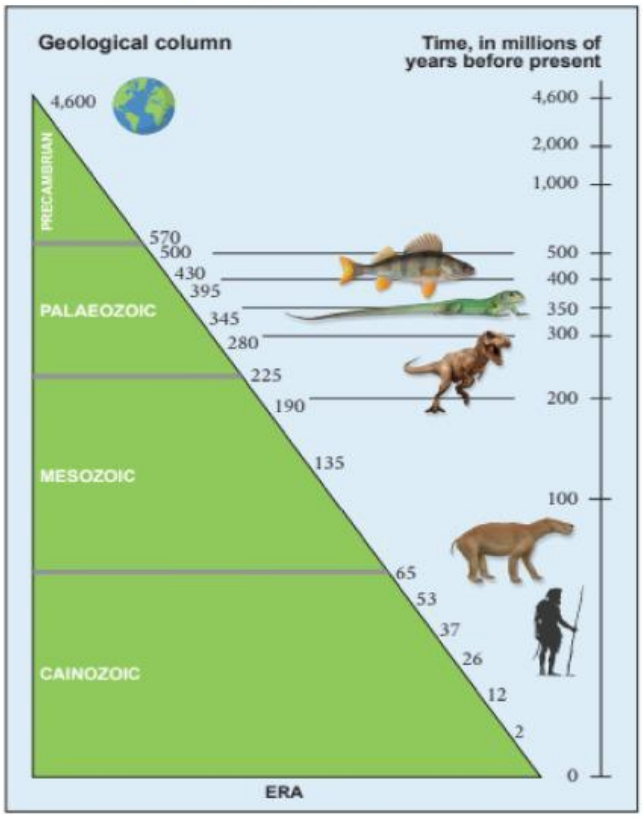
QUESTION ONE: Turtles

The first turtles lived around 230 million years ago.



(a) Did turtles live around the same time as dinosaurs? Use information from the chart to explain your answer.

Did turtles live around the same time as dinosaurs? Use information from the chart to explain your answer.

a. Yes, turtles lived at the same time as dinosaurs. The geological column chart shows that the first turtles lived around 230 million years ago. This falls within the Mesozoic Era on the chart, which is the same era that the dinosaur is shown in.

b. No, turtles lived at the same time as dinosaurs. The geological column chart shows that the first turtles lived around 230 million years ago. This falls within the Mesozoic Era on the chart, which is the same era that the dinosaur is shown in.

c. Yes, turtles lived at the same time as dinosaurs. The geological column chart shows that the first turtles lived around 240 million years ago. This falls within the Cainozoic Era on the chart, which is the same era that the dinosaur is shown in.

Answer: _____

Here are the first few rows of a data set. There are 1000 turtles in the whole table.

Species	Gender	Shell length (cm)	Weight (kg)
Green	Female	87	108
Loggerhead	Male	76	89
Green	Male	123	145
Hawksbill	Female	65	71
Hawksbill	Female	54	64
Loggerhead	Male	81	93

(b) Write a question that could be answered using information from this table.

a. "What is the average weight of a Loggerhead turtle?"

b. "Is there a relationship between a turtle's shell length and its weight?"

c. Both a and b

Answer: _____

Only one in every 100 baby turtles survive to become adults.

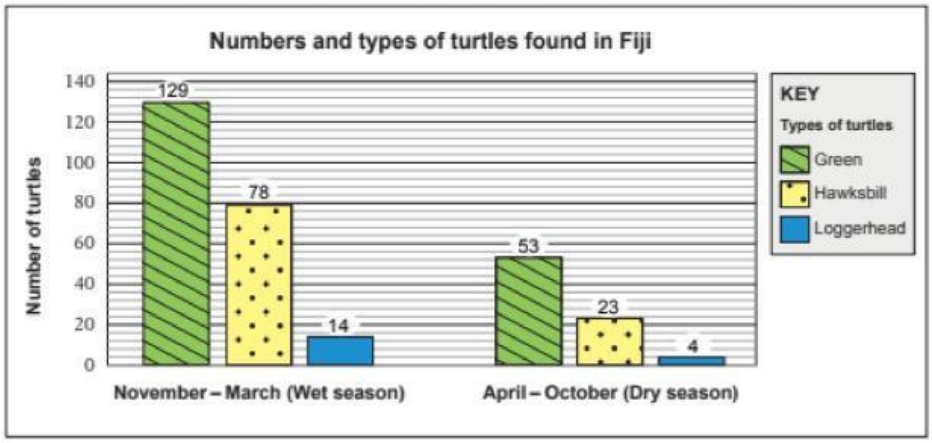
(c) Which decimal is the probability of a one in 100 chance?
Tick (✓) the correct answer.

◯ 1.0 ◯ 0.1 ◯ 0.01 ◯ 0.001 ◯ 0.0001

a. The correct answer is 1.0
b. The correct answer is 0.1
c. The correct answer is 0.01
d. The correct answer is 0.001
e. The correct answer is 0.0001

Answer: _____

This graph shows the numbers and types of turtles found in Fiji, in the wet and dry seasons.



A Fiji newspaper uses the figures from the dry season to claim:

"Only 23 Hawksbill turtles were found. This species is at risk of extinction in our waters."

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

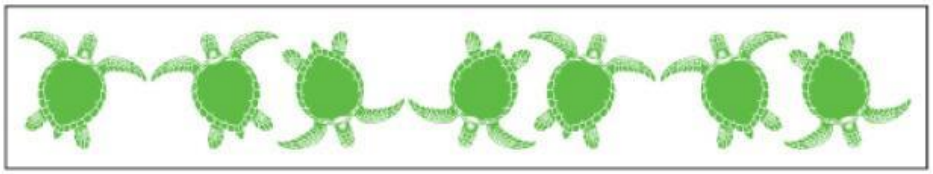
a. I disagree with the newspaper's claim. While only 23 Hawksbill turtles were found during the dry season, the graph shows a significant decrease in all three turtle species during this time. In the wet season, 78 Hawksbill turtles were found, which is more than three times the number found in the dry season. This suggests the species might not be at risk of extinction but rather that fewer turtles are present in the area during the dry season.

b. I agree with the newspaper's claim. While only 23 Hawksbill turtles were found during the dry season, the graph shows a significant increase in all three turtle species during this time. In the wet season, 78 Hawksbill turtles were found, which is more than three times the number found in the dry season. This suggests the species might be at risk of extinction.

c. I agree with the newspaper's claim. While only 32 Hawksbill turtles were found during the dry season, the graph shows a significant increase in all three turtle species during this time. In the wet season, 78 Hawksbill turtles were found, which is more than three times the number found in the dry season. This suggests the species might be at risk of extinction.

Answer: _____

This pattern is made using a repeating turtle figure.



(e) Which pattern in the box below matches the turtle pattern?

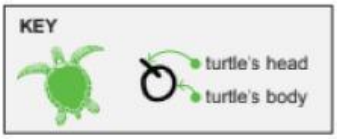
Circle ◯ the correct answer.

(i) 

(ii) 

(iii) 

(iv) 



a. The correct answer is **(i)**.
b. The correct answer is **(ii)**.
c. The correct answer is **(iii)**.
d. The correct answer is **(iV)**.

Answer: _____

Turtles need a lot of water in their tank.

For **every centimetre** of the turtle's shell length, the tank must hold 15 litres of water.

(f) How much water will this turtle need in its tank?

_____ litres

Measuring a turtle's shell.

a. 12000 litres of water.
b. 120 litres of water.
c. 1200 litres of water.

Answer: _____

QUESTION TWO: Bargains at the op shop

An op shop is a place where people buy things that are recycled. Here are directions to get to an op shop.

(a) If walking one kilometre takes 12 minutes, how many kilometres can you walk in one hour?

_____ km

a. 6 km
b. 5 km
c. 7 km

Answer: _____

Here is the price of a pair of jeans at the op shop. These jeans are priced at $120 when new.

(b) What percentage **of the new price for jeans**, is the op shop price?

_____ %

a. 30%
b. 20%
c. 10%

Answer: _____

Here is an image of a plate.

(c) (i) Does the whole plate have **reflectional** (mirror) symmetry?

Tick (✓) the correct answer.

Yes ◯ No ◯

(ii) Does the whole plate have **rotational** (turn) symmetry?

Tick (✓) the correct answer.

Yes ◯ No ◯

a. (i) No; (ii) Yes
b. (i) Yes; (ii) No
c. (i) No; (ii) No
d. (i) yes; (ii) Yes

Answer: _____

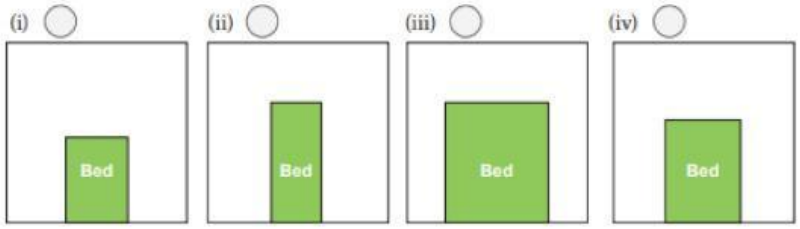
In the op shop, there is a double bed.

It measures 1.37 m across and 1.88 m long.

A bedroom measures 3.5 m × 3.5 m.

(d) Which diagram best shows how the double bed will fit in the bedroom?

Tick (✓) the correct answer.



a. (i)
b. (ii)
c. (iii)
d. (iv)

Answer:_____

This jar holds 20 glasses of water.

A glass holds 250 mL of water.

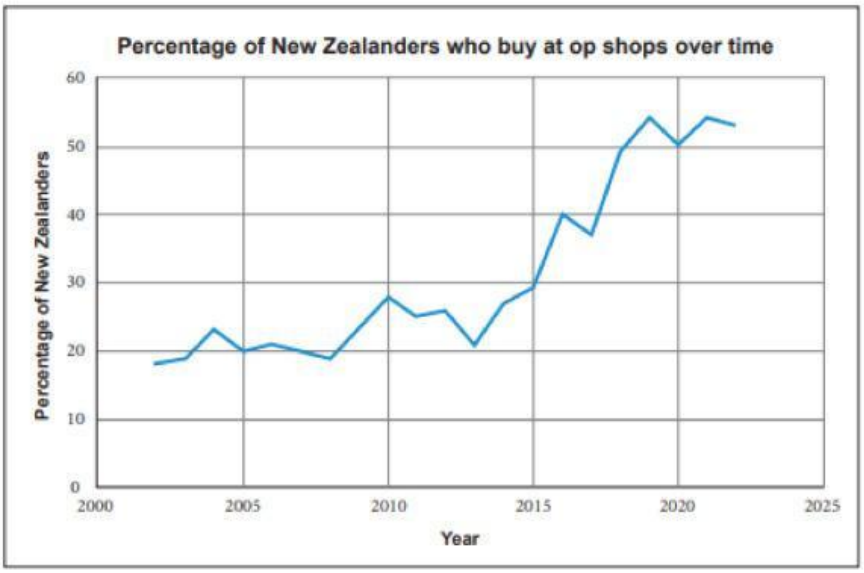
(e) How many **litres** of water does the jar hold?

_____ litres

a. 5 litres of water
b. 50 litres of water
c. 500 litres of water
d. 5000 litres of water Answer: _____

A TV presenter claims the percentage of New Zealanders buying at op shops has trebled in the 20 years from 2002 to 2022.

Note: "Trebled" means three times as much.



(f) Is the TV presenter right?
Use information from the graph to say why you agree, or disagree, with their claim.

a. Yes, the TV presenter is right.
b. No, the TV presenter is wrong. Answer: _____

QUESTION THREE: Kaimoana (Seafood)

Awa wants to collect pipi, a tasty shellfish.

Awa can collect 60 pipi per hour.

(a) How long, in **hours and minutes**, will it take Awa to collect 150 pipi?

_____ hours, and _____ minutes

Awa holding pipi.

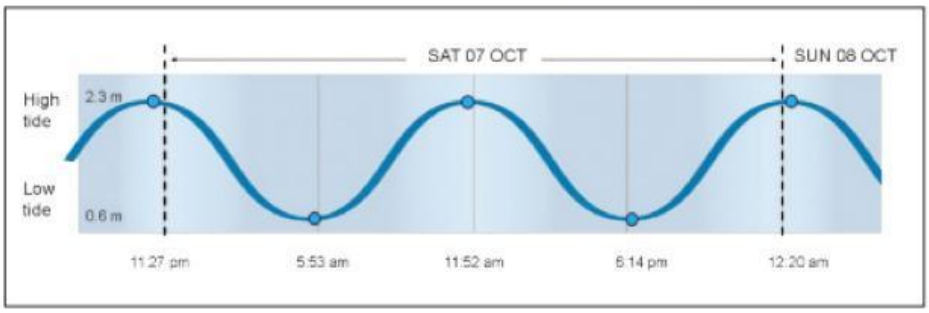
a. 2 hours and 30 minutes to collect 150 pipi.

b. 3 hours and 30 minutes to collect 150 pipi.

c. 2 hours and 40 minutes to collect 150 pipi.

d. 3 hours and 40 minutes to collect 150 pipi.

Here is a tide chart for Saturday 7 October and the first part of Sunday 8 October.



(b) Awa wants to collect seafood at **low tide**. About what time can Awa next collect seafood on Sunday 8 October?

_____

a. This will be around **6:30 am** on Sunday, October 8th.
b. This will be around **8:00 pm** on Sunday, October 8th.
c. This will be around **5:30 am** on Sunday, October 8th.

Answer: _____

Awa wants to set a crab trap using bait.

Awa's koro (grandfather) recommends using a bait mixture that is ⅜ squid and the rest is chicken.

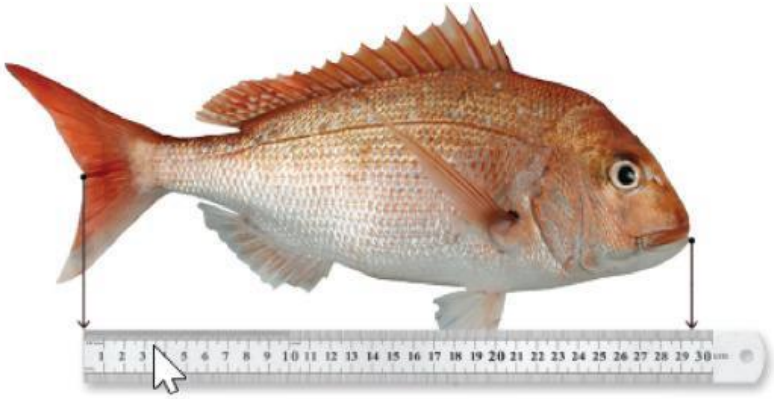
(c) If Awa has 150 g of squid, how many grams of chicken does Awa need?

_____ g

a. Awa needs **250 g** of chicken.
b. Awa needs **350 g** of chicken.
c. Awa needs **450 g** of chicken.

Answer: _____

People who catch fish can only keep a snapper if it has a **minimum** length of 30 cm (measured from the V in its tail). If it is shorter than 30 cm it must be put back into the sea.



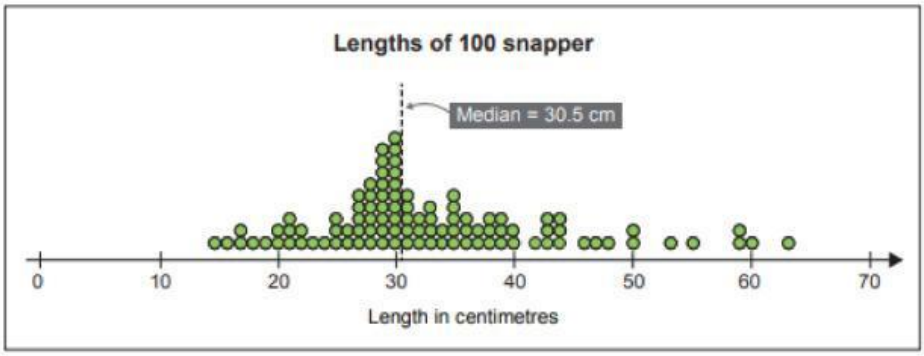
(d) The length of this snapper rounds up to 30 cm. Should Awa keep the snapper or put it back into the sea? Explain your answer using measurements.

a. Awa should put the snapper back into the sea. The minimum length to keep a snapper is 30 cm. The ruler in the image clearly shows that the fish is just under 30 cm long. Even though the length rounds up to 30 cm, it does not meet the legal minimum requirement, which is 30 cm or greater.

b. Awa should not put the snapper back into the sea. The minimum length to keep a snapper is 30 cm. The ruler in the image clearly shows that the length of the snapper rounds up to 30cm.

Answer: _____

Awa sees this graph about the lengths of 100 snapper.



(e) Awa thinks that to catch five snapper to feed the whānau he will need to hook 10 snapper and put five of them back into the sea. Is Awa right? Use ideas about probability and numbers from the graph to explain your answer.

a. There are 100 snapper lengths shown on the graph, 50 on each side of the median value of 30.5 cm. The probability of each snapper caught being 30 cm or more is about half or 0.5. Awa can reasonably expect 5 out of 10 snappers to be keepable.

b. There is likely to be a lot of variation in the length of the fish caught. 10 is not a big sample, so it is very uncertain whether 5 of the 10 will be at length.

c. Both a and b

Answer: _____

Awa has a boat with a small two-stroke motor. The fuel for the motor is petrol mixed with oil in a ratio of 50:1 (about 2% oil).

(f) If Awa has 10 litres of petrol, how much oil, in **millilitres**, should he add?

_____ mL

Awa's boat with a small two-stroke motor.

a. 100 mL
b. 200 mL
c. 300 mL

Answer: _____

QUESTION FOUR: Driving lessons

Deena is learning to drive.
A one-hour driving lesson costs $80.

If Deena takes five lessons, there is a 30% discount.

(a) How much do five driving lessons cost, with the discount?

$ _____

Deena learning to drive.

a. $280; $56 (discounted price of one lesson)
b. $290; $58
c. $300; $60

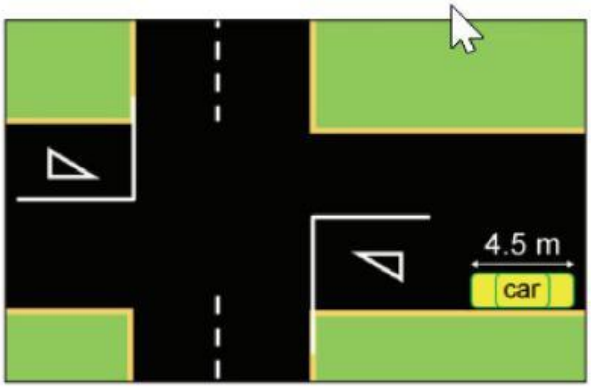
Answer: _____

A car is parked legally if it is **six metres or more** from the corner.

Deena knows her car is 4.5 metres long.

Deena parks **1½ car lengths** from the corner.

(b) Is Deena's car parked legally? Explain your answer using measurements.

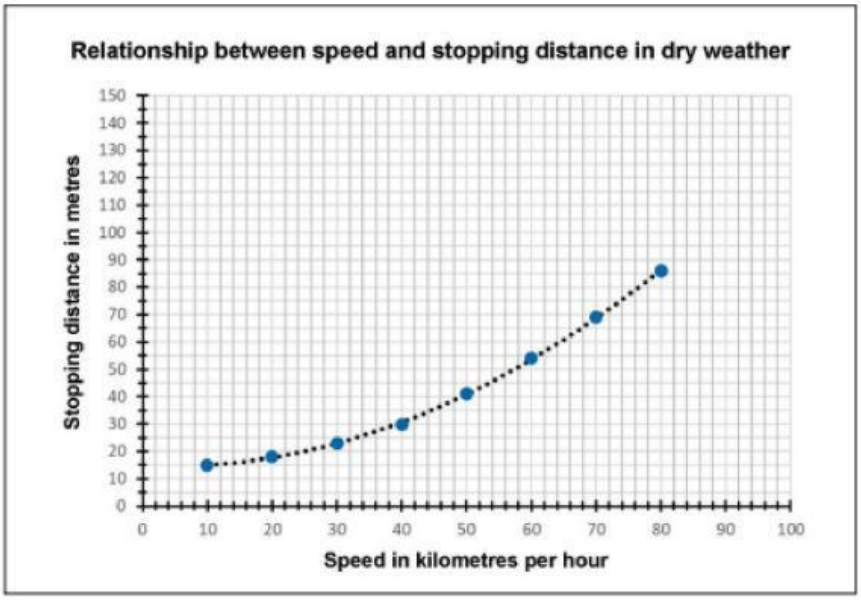


a. Agree: The car is 1½ lengths from the corner. Given that 1½ x 4.5 = 6.75 metres, the car is more than 6 metres from the corner.

b. Disagree: The car is 1½ lengths from the corner. Given that 1½ / 4.5 = 5.75 metres, the car is less than 6 metres from the corner.

c. Neither a and b

This graph shows the distance that a car needs to stop at different speeds in dry weather.



Deena's car is moving at 100 kilometres per hour.

(c) About how much distance will her car take to stop?

_____ m

a. 120 m
b. 100 m
c. 110 m

Answer: _____