
CAR COST CALCULATOR

Question 1: CAR COST CALCULATOR

CM013Q01

Moritz lives 15 km away from work.

According to the car cost calculator, about what percentage of his car travel cost would Moritz save by buying a monthly transport ticket?

- A 50%
- B 60%
- C 100%
- D 200%

SCORING

QUESTION INTENT:

Description: Calculate a saving as a percentage

Mathematical content area: Quantity

Context: Societal

Process: Employ

Correct

- A 50%

Incorrect

Other responses.

Missing.

Question 2: CAR COST CALCULATOR

CM013Q02

The car cost calculator is based on a number of assumptions, including the following ones that relate to petrol consumption:

- 20 work days in each month.
- one trip going to work and back per work day.
- 10 litres petrol consumption for every 100 km.
- 1.50 zeds per litre of petrol.

Using these assumptions, what is the formula for working out the petrol costs for a month, C zeds, when the distance to work is d kilometres? Note: the calculator above is **not only** based on these assumptions.

- A $C = 3d$
- B $C = 6d$
- C $C = 12d$
- D $C = 15d$
- E $C = 300d$

SCORING

QUESTION INTENT:

Description: Develop a formula given a description of the variable costs based on petrol consumption and distance travelled

Mathematical content area: Change and relationships

Context: Societal

Process: Formulate

Correct

B.

Incorrect

Other responses.

Missing.

Question 3: CAR COST CALCULATOR

CM013Q03

The formula for working out the car travel costs needs to take into account more than just the petrol costs. The Zedtown Transportation Service adds an additional value of b zeds per month to the monthly petrol costs to allow for other car costs such as insurance and registration.

The formula they use to work out the costs is: $C = 6d + b$

C is the total cost in zeds, d is the distance to work in kilometres, and b is the additional non-petrol costs in zeds per month.

Use the car cost calculator to help you calculate the value of b .

The value of $b = \dots\dots\dots$ zeds

SCORING

QUESTION INTENT:

Description: Work with a given formula and values to determine the value of a constant in the formula

Mathematical content area: Change and relationships

Context: Societal

Process: Employ

Correct

The exact value for b is 110.

Incorrect

Other responses.

Missing.