RATIOS – WORD PROBLEM
PROBLEM SOLVING

GMAT QUANTITATIVE REASONING

4GMAT
GMAT PREPARATION

Question

An SUV consumes 40% more fuel than a family sedan for the same distance. The total fuel consumed when an SUV and a family sedan drove 1050 km each was 360 litres. How many litres of fuel does the sedan consume per km?

A. 5 liters
B. 0.2 liters
C. 7 liters
D. 0.14 liters
E. 1.2 liters

Step 1

Jot down key data. Assign variables.

How many litres of fuel does the sedan consume per km?

Distance covered by each vehicle = 1050 km

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SUV consumes 40% more fuel than the sedan

How many litres of fuel does the sedan consume per km?

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Total fuel consumed = 360 litres

SUV consumes 40% more fuel than the sedan

➕ Let the sedan consume x litres of fuel to cover 1050 km.

How many litres of fuel does the sedan consume per km?

Distance covered by each vehicle = 1050 km

Total fuel consumed = 360 litres

SUV consumes 40% more fuel than the sedan

➕ Let the sedan consume x litres of fuel to cover 1050 km.

➕ ∴ the SUV will consume (x + 40% of x) litres of fuel to cover 1050 km.

How many litres of fuel does the sedan consume per km?

Distance covered by each vehicle = 1050 km

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SUV consumes 40% more fuel than the sedan

➕ Let the sedan consume x litres of fuel to cover 1050 km.

➕ ∴ the SUV will consume (x + 40% of x) litres of fuel to cover 1050 km.

▶ Or the SUV consumes $x + \dfrac{40}{100}x = \dfrac{14}{10}x$

Step 2

Compute the value of x. Then compute the answer

How many litres of fuel does the sedan consume per km?

Distance covered 1050 km. Total fuel consumed 360 litres.

02 Solve for x, the quantity of fuel consumed by the sedan for 1050 km

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02 Solve for x, the quantity of fuel consumed by the sedan for 1050 km

➕ Sedan consumes x litres of fuel.

➕ SUV consumes $\frac{14}{10}$ x litres of fuel.

How many litres of fuel does the sedan consume per km?

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02 Solve for x, the quantity of fuel consumed by the sedan for 1050 km

➕ Sedan consumes x litres of fuel.

➕ SUV consumes $\frac{14}{10}$x litres of fuel.

➕ Total fuel consumed by sedan and
SUV = x + $\frac{14}{10}$x = $\frac{24}{10}$x litres of fuel.

How many litres of fuel does the sedan consume per km?

Distance covered 1050 km. Total fuel consumed 360 litres.

02 Solve for x, the quantity of fuel consumed by the sedan for 1050 km

➕ Sedan consumes x litres of fuel.

➕ SUV consumes $\frac{14}{10}x$ litres of fuel.

➕ Total fuel consumed by sedan and SUV = $x + \frac{14}{10}x = \frac{24}{10}x$ litres of fuel.

➕ $\frac{24}{10}x = 360$ or $x = \frac{360 \times 10}{24} = 150$ litres

How many litres of fuel does the sedan consume per km?

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➕ SUV consumes $\frac{14}{10}$x litres of fuel.

➕ Total fuel consumed by sedan and SUV = x + $\frac{14}{10}$x = $\frac{24}{10}$x litres of fuel.

➕ $\frac{24}{10}$x = 360 or x = $\frac{360 \times 10}{24}$ = 150 litres

Note: x is not the final answer

How many litres of fuel does the sedan consume per km?

Distance covered 1050 km. Total fuel consumed 360 litres.

03 Compute litres of fuel consumed by sedan per km

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➕ Sedan consumes 150 litres of fuel to cover 1050 km.

How many litres of fuel does the sedan consume per km?

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03 Compute litres of fuel consumed by sedan per km

➕ Sedan consumes 150 litres of fuel to cover 1050 km.

▶ ∴ to cover 1 km the sedan will consume $\frac{150}{1050} = \frac{1}{7} \cong 0.14$ litres

How many litres of fuel does the sedan consume per km?

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03 Compute litres of fuel consumed by sedan per km

➕ Sedan consumes 150 litres of fuel to cover 1050 km.

▶ $\therefore$ to cover 1 km the sedan will consume $\frac{150}{1050} = \frac{1}{7} \cong 0.14$ litres

➡ Sedan consumes 0.14 litres per km

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➕ Sedan consumes 150 litres of fuel to cover 1050 km.

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Choice D

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