

19.

Answer

$$\text{Cost per km} = \text{£}2.42 = 242 \text{ p}$$

$$\text{Cost per person per km} = 242 \div 11 = 22 \text{ p} \quad 1$$

$$\begin{aligned} \text{Cost per person for 32 km} &= 32 \times 22 \\ &= (32 \times 20) + (32 \times 2) \\ &= (32 \times 2 \times 10) + (32 \times 2) \\ &= 640 + 64 \\ &= 704 \text{ p} \\ &= \text{£}7.04 \end{aligned}$$

Answer: £7.04 1

Total: 2

Method

Change pounds (£) to pence (p).

There are 11 friends, so divide the cost per km by 11:

$$\begin{array}{r} 22 \\ 11 \overline{) 242} \\ \underline{22} \\ 20 \\ \underline{22} \\ 20 \\ \underline{22} \\ 20 \\ \underline{22} \\ 0 \end{array}$$

The cost per km for one person is 22 p.

Now you need to multiply by 32 to find the cost per person for the whole 32 km journey.

You can partition 22 to help with this calculation, as shown above.

Finally, change pence back to pounds by dividing by 100.

Top Tip

You could have answered this question by finding the total cost for 32 km and then dividing by 11:

$$(32 \times 242) \div 11 = 7744 \div 11 = 704$$

However, the numbers involved in this calculation are much larger and perhaps not as easy to work with.