## Distances between Towns

I can convert between miles and kilometres.
000
Here is a distance chart between different towns. The measurements given are in miles. They may not be geographically accurate.

|  |  |  | $\begin{aligned} & \text { E } \\ & \text { 苞 } \\ & \text { O} \\ & \text { \# } \\ & 0 \end{aligned}$ | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Birmingham | - | 30 | 50 | 75 | 45 |
| Worcester | 30 | - | 80 | 85 | 75 |
| Nottingham | 50 | 80 | - | 100 | 30 |
| Oxford | 75 | 85 | 100 | - | 80 |
| Leicester | 45 | 75 | 30 | 80 | - |

Use the conversion: 5 miles $\approx 8$ kilometres to calculate the distances between these towns.

| Towns | Distance in Kilometres |
| :--- | :--- |
| a) Birmingham and Worcester |  |
| b) Leicester and Oxford |  |
| c) Nottingham and Oxford |  |
| d) Oxford and Worcester |  |
| e) Birmingham and Nottingham |  |


| Towns | Distance in Kilometres |
| :--- | :---: |
| a) Birmingham and Worcester | 48 km |
| b) Leicester and Oxford | 128 km |
| c) Nottingham and Oxford | 160 km |
| d) Oxford and Worcester | 136 km |
| e) Birmingham and Nottingham | 80 km |

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| :---: | :---: | :---: | :---: | :---: | :---: |
| Coventry | - | 68 | 105 | 115 | 118 |
| Gloucester | 68 | - | 135 | 143 | 146 |
| Manchester | 105 | 135 | - | 40 | 34 |
| Chester | 115 | 143 | 40 | - | 21 |
| Liverpool | 118 | 146 | 34 | 21 | - |

1. Use the conversion: 5 miles $\approx 8$ kilometres to calculate the distances between these towns.

| Towns | Distance in Kilometres |
| :--- | :--- |
| a) Coventry and Gloucester |  |
| b) Manchester and Coventry |  |
| c) Chester and Manchester |  |
| d) Liverpool and Gloucester |  |
| e) Liverpool and Chester |  |

2. It is more than 100 km further from Gloucester to Liverpool than it is from Gloucester to Coventry. True or false? Show how you know.

| Question | Answer |
| :---: | :---: |
| 1. |  |
| a | 108.8 km |
| b | 168 km |
| c | 64 km |
| d | 233.6 km |
| $e$ | 33.6 km |
| 2. It is more than 100 km further from Gloucester to Liverpool than it is from Gloucester to Coventry. True or false? Show how you know. |  |
| True. <br> Gloucester to <br> Gloucester to $233.6 \mathrm{~km}-10$ | $\begin{aligned} & \text { iverpool }=233.6 \mathrm{~km} \\ & \text { oventry }=108.8 \mathrm{~km} \\ & .8 \mathrm{~km}=124.8 \mathrm{~km} \end{aligned}$ |

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|  |  |  | - |  | E 0 ¢ ¢ 0 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Manchester | - | 45 | 72 | 75 | 129 |
| Leeds | 45 | - | 24 | 117 | 82 |
| York | 72 | 24 | - | 130 | 73 |
| Wolverhampton | 75 | 117 | 130 | - | 188 |
| Durham | 129 | 82 | 73 | 188 | - |

1. Use the conversion: 5 miles $\approx 8$ kilometres to calculate the distances between these towns.

| Towns | Distance in Kilometres |
| :--- | :--- |
| a) Manchester and Leeds |  |
| b) Leeds and Wolverhampton |  |
| c) York and Manchester |  |
| d) Wolverhampton and York |  |
| e) Durham and Leeds |  |

2. Ted is driving from Wolverhampton to Durham. He needs to go via Manchester. How much longer is the journey than if he went directly to Durham? Write your answer in kilometres and show how you worked out the answer.

| Question | Answer |
| :---: | :---: |
| 1. |  |
| a | 72 km |
| b | 187.2 km |
| c | 115.2 km |
| d | 208 km |
| $e$ | 131.2 km |
| 2. Ted is driving from Wolverhampton to Durham. He needs to go via Manchester. How much longer is the journey than if he went directly to Durham? Write your answer in kilometres and show how you worked out the answer. |  |
| From Wolverhampton to Manchester: 75 miles $\approx 120 \mathrm{~km}$ |  |
| From Manchester to Durham: 129 miles $\approx 206.4 \mathrm{~km}$ |  |
| Total journey: $120 \mathrm{~km}+206.4 \mathrm{~km}=326.4 \mathrm{~km}$ |  |
| From Wolverhampton to Durham: 188 miles $\approx 300.8 \mathrm{~km}$ |  |
| Difference in the 2 journeys: $326.4 \mathrm{~km}-300.8 \mathrm{~km}=25.6 \mathrm{~km}$ |  |
| Answer could also show the calculations completed in miles first, then converted to kilometres: |  |
| From Wolverhampton to Manchester: 75 miles |  |
| From Manchester to Durham: 129 miles |  |
| Total journey: 75 miles +129 miles $=204$ miles $\approx 326.4 \mathrm{~km}$ |  |
| Difference in the 2 journeys: $326.4 \mathrm{~km}-300.8 \mathrm{~km}=25.6 \mathrm{~km}$ |  |

