## Maths Mastery Convert Between Miles and Kilometres

## Miles to Kilometres

5 miles is equal to 8 km . (Actually its 8.04672 km .) Other approximate ratios are: 2 miles $=3 \mathrm{~km}$ or 3 miles $=5 \mathrm{~km}$

Explore how accurate these estimates are. Share your ideas with a partner.
Use these approximations to estimate the following conversions.

| Ratio | $\mathbf{3 0}$ miles |
| :---: | :---: |
| 5 miles $=8 \mathrm{~km}$ | 48 km |
| 3 miles $=5 \mathrm{~km}$ | 50 km |
| 2 miles $=3 \mathrm{~km}$ | 45 km |

Compare your answers with a partner. Try using these estimations to convert

| Mileage | Ratio Used | Kilometres |
| :---: | :---: | :---: |
| 2000 | $2: 3$ | 3000 km |
|  | $5: 8$ | 3200 km |
| 3033 | $3: 5$ | 5055 km |
|  | $5: 8$ | 4852.8 km |
| 6400 | $2: 3$ | 9600 km |
|  | $5: 8$ | 10240 km |
|  | $2: 3$ (nearest 10000 km ) | 20000 km |
|  | $3: 5$ (nearest 10000 km ) | 20000 km |
|  | $5: 8$ (nearest 10000 km ) | 20000 km | miles into kilometres.

## Convert with Decimals

As a further investigation into the use of different ratios to convert between miles and kilometres, use the common ratios $2: 3,3: 5$ and 5:8 change into decimals and see and see what you notice.

$$
2: 3=0.66,3: 5=0.6 \text { and } 5: 8=0.625
$$

Try the ratios the other way round.

$$
3: 2=1.5,5: 3=1.66,8: 5=1.6
$$

What would be the closest ratios to $5: 8$ or $8: 5$ using other denominators such as $4,7,8,11,13$ ?

Miles to km : 2:4 $=0.5$ or $3: 4=0.75$ (not very accurate), $4: 7=0.57,7: 11=0.64,8: 13=\mathbf{0 . 6 2}$ Km to miles: $7: 4=1.75,11: 7=1.57,13: 8=1.625$, $18: 11=1.64,21: 13=1.62$


