

You may have thought that the sums of the two numbers should be constant. However, these numbers need to satisfy an inverse variation equation: $t = \frac{k}{r}$ or $t \cdot r = k$.

The first two numbers give you $10 \cdot 60 = 600$, while the second two numbers give you $40 \cdot 30 = 1,200$. Because k is not the same, the relationship is not inversely proportional. The correct answer is 50 mph for 8 hours and 40 mph for 10 hours.