Value of a Ratio Worksheet

Taivon is training for a duathlon, which is a race that consists of running and cycling. The cycling leg is longer than the running leg of the race, so while Taivon trains, he rides his bike more than he runs. During training, Taivon runs 4 miles for every 14 miles he rides his bike.

    a.   Identify the ratio associated with this problem and find its value.

Use the value of each ratio to solve the following.

    b.   When Taivon completed all of his training for the duathlon, the ratio of total number of miles he ran to total number of miles he cycled was $80:280$. Is this consistent with Taivon's training schedule? Explain why or why not.

    c.   In one training session, Taivon ran 4 miles and cycled 7. miles. Did this training session represent an equivalent ratio of the distance he ran to the distance he cycled? Explain why or why not.

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Taivon is training for a duathlon, which is a race that consists of running and cycling. The cycling leg is longer than the running leg of the race, so while Taivon trains, he rides his bike more than he runs. During training, Taivon runs 4 miles for every 14 miles he rides his bike.

    a.   Identify the ratio associated with this problem and find its value.

    The ratio of the number of miles he ran to the number of miles he cycled is $4:14$, and the value of the ratio is $\frac{2}{7}$. The ratio of the number of miles he cycled to the number of miles he ran is $14:4$, and the value of the ratio is $\frac{7}{2}$.

Use the value of each ratio to solve the following.

    b.   When Taivon completed all of his training for the duathlon, the ratio of total number of miles he ran to total number of miles he cycled was $80:280$. Is this consistent with Taivon's training schedule? Explain why or why not.

    This is consistent because the ratio of the number of miles he ran to the number of miles he cycled, $80:280$, has the value of $\frac{2}{7}$, which is the same value as the ratio $4:14$.

    c.   In one training session, Taivon ran 4 miles and cycled 7 miles. Did this training session represent an equivalent ratio of the distance he ran to the distance he cycled? Explain why or why not.

    This training session does not represent an equivalent ratio of the distance he ran to the distance he cycled because the value of the ratio in this instance is $\frac{4}{7}$, which is not equal to $\frac{2}{7}$.