

A puzzle from a 1912 Magazine

. TRY THIS ON YOUR FRIENDS.

Two riders are racing on different tracks, one track being within the other, their respective circuits being a half and a third of a mile. The rider on the half-mile track travels at the rate of 70 miles an hour and the rider on the third-of-a-mile track at the rate of 65 miles an hour. Starting at the same time and parallel with one another on the two tracks, how many minutes and how many miles would each have to ride before they again cross the starting line at exactly the same time ?

Answer.-They will cross the starting line together at the end of 12 minutes' riding. The rider on the half mile track will have covered 14 miles while the rider on the third of a mile track will have ridden 13 miles. This means 28 circuits at 70 miles per hour on the half mile track and 39 circuits at 65 miles per hour on third of a mile track. The method of working out the problem is:-

Find the time for one lap on each track and reduce these fractions until they have a common denominator. Divide the numerators so obtained by the laps per mile on each track. Thus, in the present case the rider on the half-mile track makes a lap in $\frac{3}{7}$ of a minute, while the other makes a lap in $\frac{4}{13}$ of a minute. These, reduced to a common denominator, are respectively, $\frac{39}{91}$ and $\frac{28}{91}$ of a minute; 28 circuits on the half-mile track are 14 miles. and 39 circuits on the other track are 13 miles. Both these mileages will be made in 12 minutes exactly. so that the two riders, after having made 14 and 13 miles respectively, will again cross the starting line at the same instant.

Dead easy a!

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