

Train speed calculation, in SILVER BLAZE

... on train to Exeter, Holmes's "eager face framed in his ear-flapped travelling-cap [not Deerstalker]", when this conversation occurs.

"We are going well," said he, looking out of the window, and glancing at his watch. "Our rate at present is fifty-three and half miles an hour."

"I have not observed the quarter mile posts," said I.

"Nor have I. But telegraph posts upon this line are sixty yards apart, and the calculation is a simple one."

I have been asked several times to explain this, with "Come on David, you did maths!", to which I have always replied "Yes I did maths, but this is just simple arithmetic, the sort of problem an eleven-year old could solve."

Apparently not, it's a long time since I was eleven, and clearly what our teachers thought would be of use to us is not so - all forgotten - my friends Chris and David both asked for an explanation.

Well it is simple, the clues are given: telegraph posts sixty yards apart, and a watch. So Holmes counted the passing of the telegraph posts over a period of time. Elementary! Holmes counted 131 posts in 5 minutes, so...

131 posts @ 60 yards apart times 12 (5 minute periods per hour) divided by 1760 yards per mile yields 53.59 mile per hour. Or in reverse, 53.5 mph = 94160 yards/hour = 1569.33 posts/hour = 26.15 posts/minute, of which 131 posts per 5 minutes is the integer solution.

A much more interesting question is: how did Holmes know that the telegraph posts were 60 yards apart?