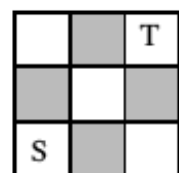




4. A route on the 3×3 board shown consists of a number of steps. Each step is from one square to an adjacent square of a different colour. How many different routes are there from square S to square T which pass through every other square exactly once?



- A 0 B 1 C 2 D 3 E 4

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4. C In order to pass through each square exactly once, a route must pass in and out of both unlabelled corner squares and also pass through the middle. Passing in and out of a corner involves three squares, coloured grey, white and grey in that order. Passing in and out of the two unlabelled corners therefore accounts for six unlabelled squares, leaving only the middle square which must be in the middle of any possible route. So, there are two possible routes as shown.

