

Re: simple groups and permutation groups

Source: <http://sci.tech-archive.net/Archive/sci.math/2008-03/msg04272.html>

- *From:* quasi <quasi@xxxxxxxx>
 - *Date:* Mon, 31 Mar 2008 01:14:38 -0500
-

On Mon, 31 Mar 2008 00:39:44 EDT, Jack Schmidt
<Jack.Schmidt.SciMath@xxxxxxxx> wrote:

Let G be a simple group and let $f : S_n \rightarrow G$ be a surjective homomorphism for some positive integer n .

Why is G isomorphic to S_k , for some $k \leq n$?

Because G is cyclic of order two and $n \geq 2$.

Which would make it a trick question.

If that was really the wording of the assigned question then, while technically not incorrect, I suspect the problem was posed in error.

quasi

.