

Equivalence classes

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The equivalence class of a is the things related to a .

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So it's the set of all the green shapes.

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So $c/(37)$ is all the odd natural numbers.

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So $c/(37)$ is all the odd natural numbers. As is $c/(43)$.

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I claim that the equivalence classes form a partition of X .

I prove this claim carefully in the notes. Let me step through the ideas here.

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To prove that distinct equivalence classes are disjoint, we show that if $cl(x)$ and $cl(y)$ have an element in common, then $x \sim y$ (this uses symmetry and transitivity), and then that $cl(x) = cl(y)$.

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[LEAN BOSS LEVEL LINK](#)

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LEAN BOSS LEVEL LINK

If you're interested in Lean you could now watch the final Lean video, where I'll prove some things are transitive and then talk more about this challenge.