



### Why

We want to order the real numbers.<sup>1</sup>

### Definition

Let  $R, S \in \mathbf{R}$ . If  $R \subset S$  and  $R \neq S$  then we say that  $R$  is *less than*  $S$ . If  $R \subset S$  then we say that  $R$  is *less than or equal to*  $S$ .

### Notation

If  $R$  is less than  $S$  we write  $R < S$ . If  $R$  is less than or equal to  $S$  we write  $R \leq S$ .

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<sup>1</sup>Future editions will expand



