Quasigroup laws which imply that the quasigroup is a loop or group

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Fiala has shown with computer aid that there are 35 laws of length at most six and involving the product operation only which have the property of the title (discounting renaming, cancelling, mirroring and symmetry). However, he has not provided humanly-comprehensible proofs of these facts.

We show that it is possible to give short understandable proofs of Fiala's results and to separate the loops and groups into classes.