ERRATUM TO "AN ELEMENTARY PROOF OF LESTER'S THEOREM" [JOURNAL OF CLASSICAL GEOMETRY, 1:53–56, 2012.]

NIKOLAI IVANOV BELUHOV

In my paper [1], the next-to-last paragraph of the proof of the Lemma contains one error, as follows.

> Let S be such a point that $\overrightarrow{TS} = \overrightarrow{QL} = \overrightarrow{MA}$ and $\triangle ALS \simeq \triangle MQT$. It follows that $\angle LAS = \angle QMT =$ (as $TQAM \sim TAPK$) $= \angle TKA =$ (as $KA \parallel LQ$) $= \angle TLQ = \angle LTS$, i.e., that the quadrilateral $LATS$ is cyclic.

This argument is circular: It assumes that point T lies on line KL, which in reality is the end goal it was supposed to help establish. One correction would be as follows.

> Let S be such a point that $\overrightarrow{TS} = \overrightarrow{QL} = \overrightarrow{MA}$ and $\triangle ALS \simeq \triangle MQT$. It follows that $\angle LST$ equals the angle between the lines PT and KA, which (as $TAPK \sim TQAM$) equals the angle between the lines MQ and AT, which in turn equals the angle between the lines AL and AT, i.e., that the quadrilateral $LATS$ is cyclic.

With this change, the proof of the Lemma becomes fully correct.

I would like to thank Dr Gerry Leversha for pointing out this error.

One more (though much less significant) issue was observed during the preparation of this erratum. The sentence which precedes the above paragraph contains the following typo: Instead of "$\angle BAC = \angle AQB$", the chain of equal angles should have been concluded with "$\angle BAC = \angle QAB$".

References

[1] N. I. Beluhov. An elementary proof of Lester's theorem. *Journal of Classical Geometry*, 1:53–56, 2012.