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A Visual Proof of the Area of a Trapezium Revisited

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In the July 2009 issue of Learning and Teaching Mathematics (see [1]), I described a proof without words of the area of a trapezium. Unfortunately, some readers might have misinterpreted that the proof was only valid for an isosceles trapezium (see [2]). To clarify this point, we can refer to the visual proofs for two general trapeziums below. The main idea is to connect the midpoints of the opposite sides of the trapezium, and then dissect and rotate the upper halves to the lower half to form a parallelogram, as shown in the diagrams. If the given trapezium is isosceles, then the resulting diagram will be a rectangle.



Acknowledgement

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References

[1] Y. K. Man (July, 2009). Proof without words of area of a trapezium. Learning and Teaching Mathematics, 7, p.28.

[2] M. de Villiers (May, 2011). A correct visual proof of area of trapezium. Learning and Teaching Mathematics, 10, p.46.