Euclid's Elements

Book I

If Euclid did not kindle your youthful enthusiasm, you were not born to be a scientific thinker.

Albert Einstein

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Proposition 40 of Book I

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In other words

Let ABC and DCE be triangles, lying on the same line, with equal bases and equal areas

$BC = CE$

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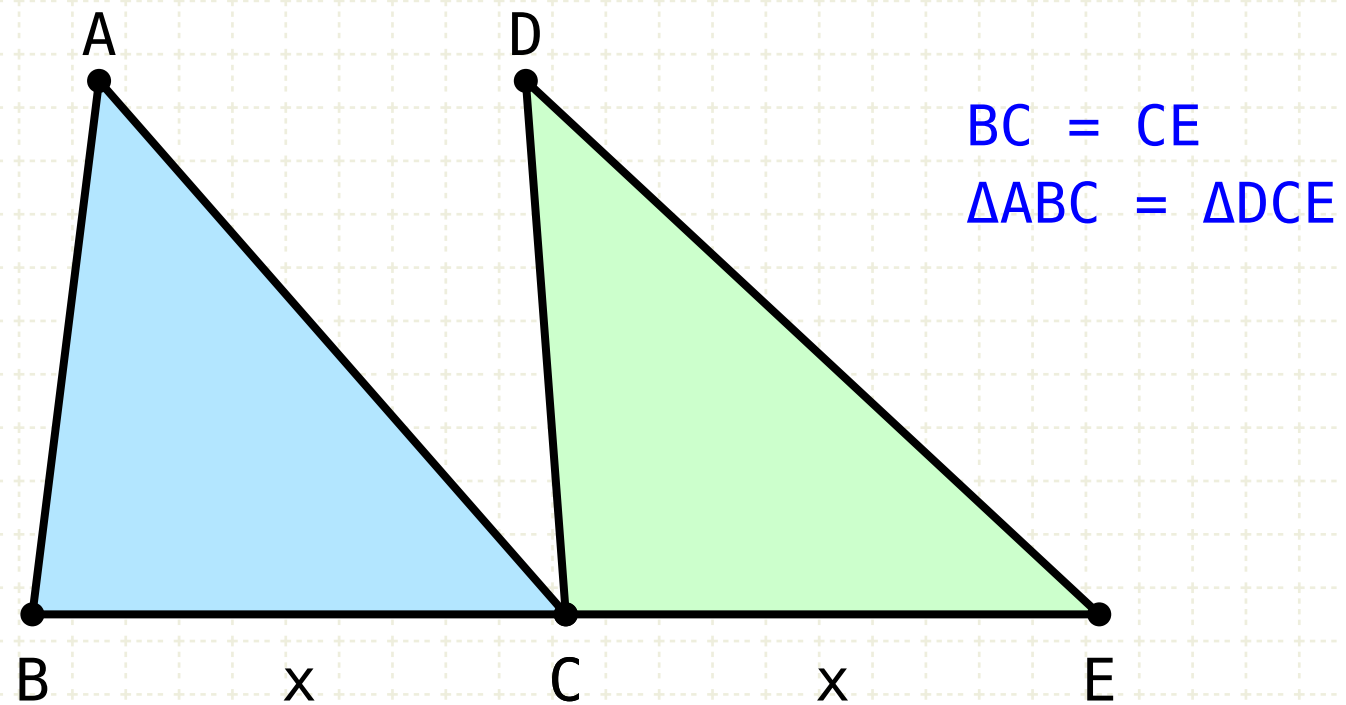Draw line AF, parallel to BE and passing point A and line DC

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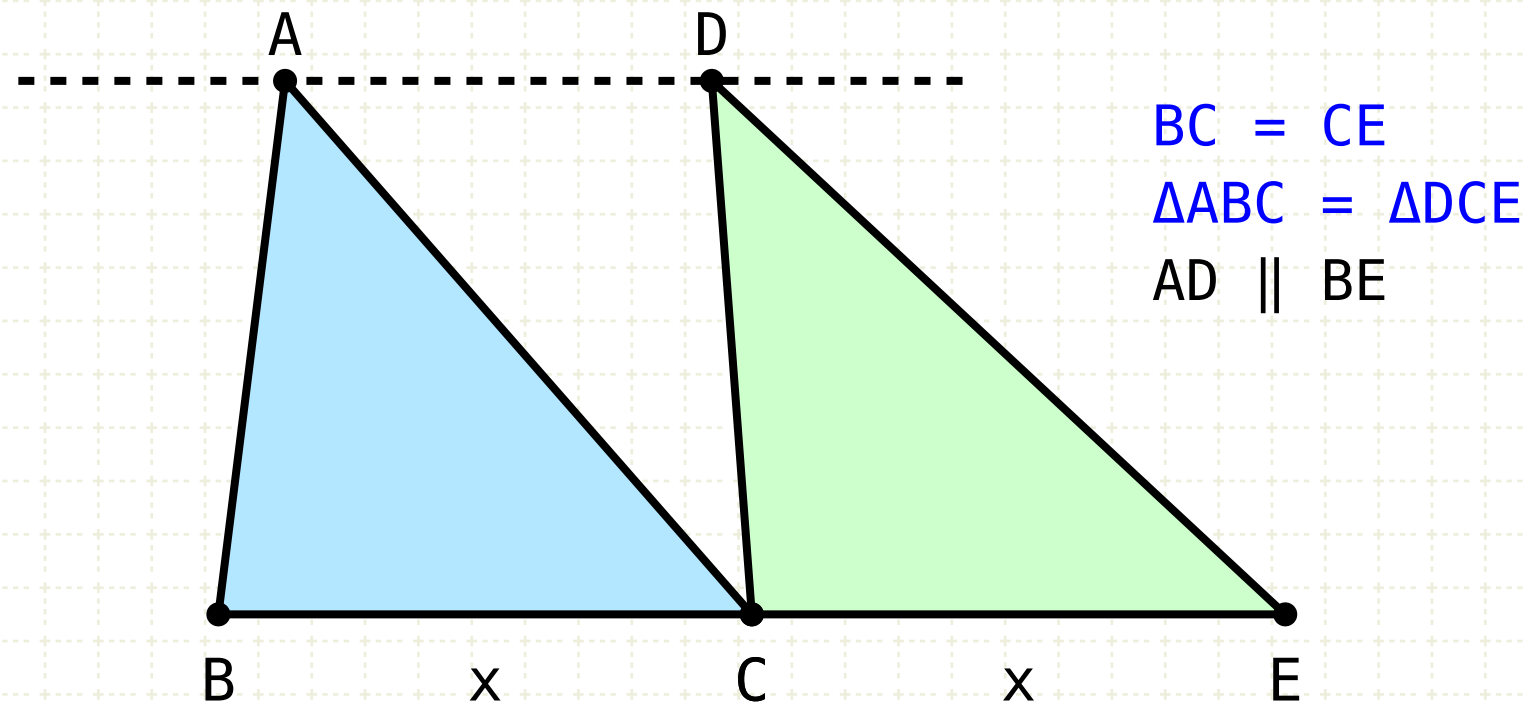Equal triangles which are on equal bases and on the same side are also in the same parallels.

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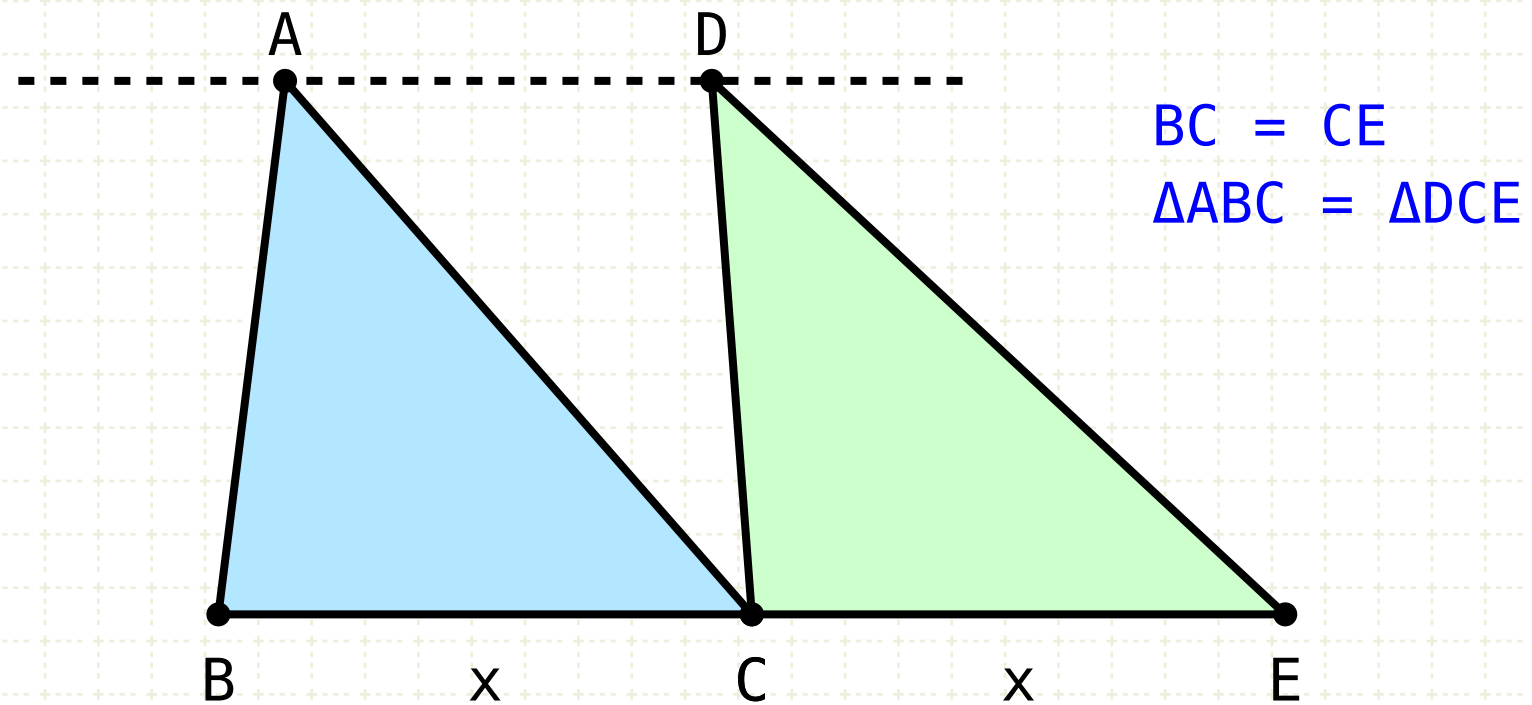Let ABC and DCE be triangles, lying on the same line, with equal bases and equal areas

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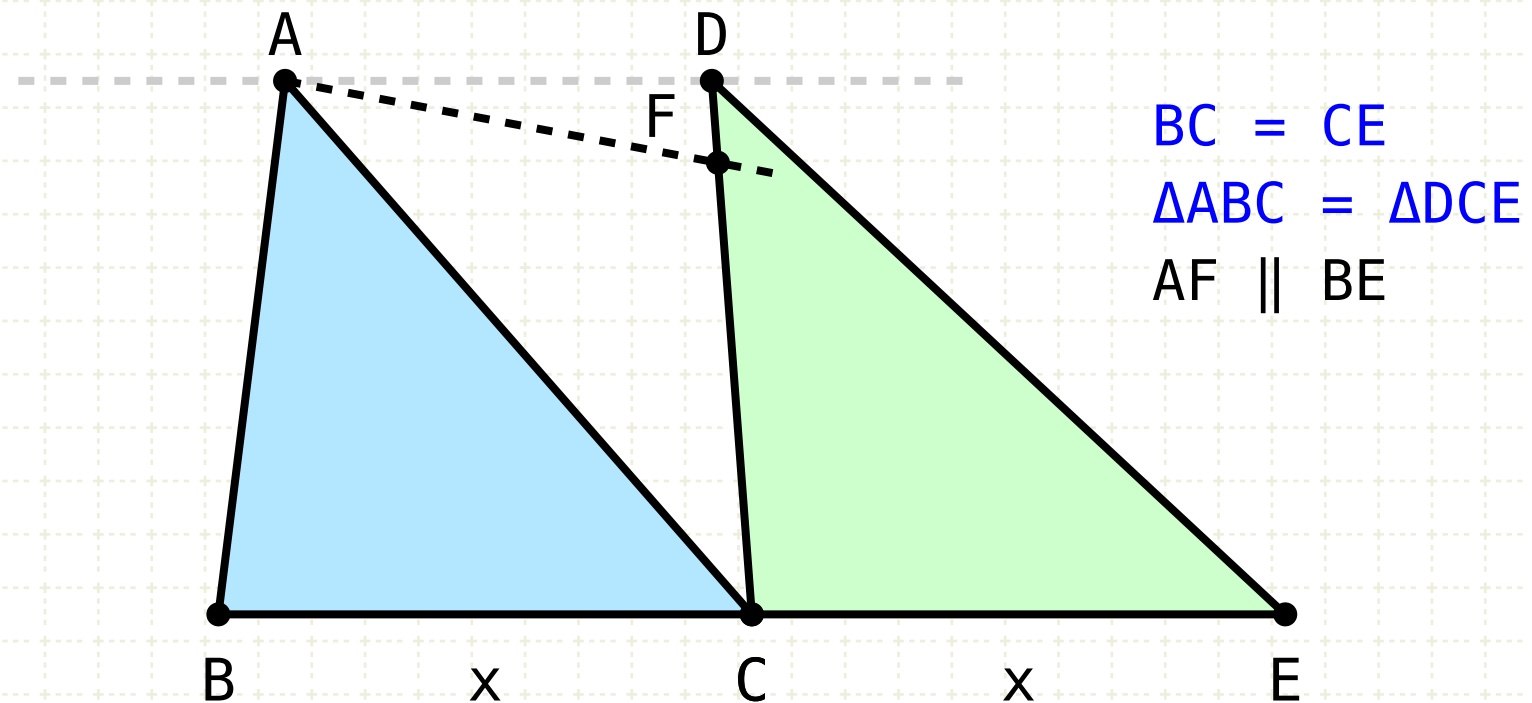Let ABC and DCE be triangles, lying on the same line, with equal bases and equal areas

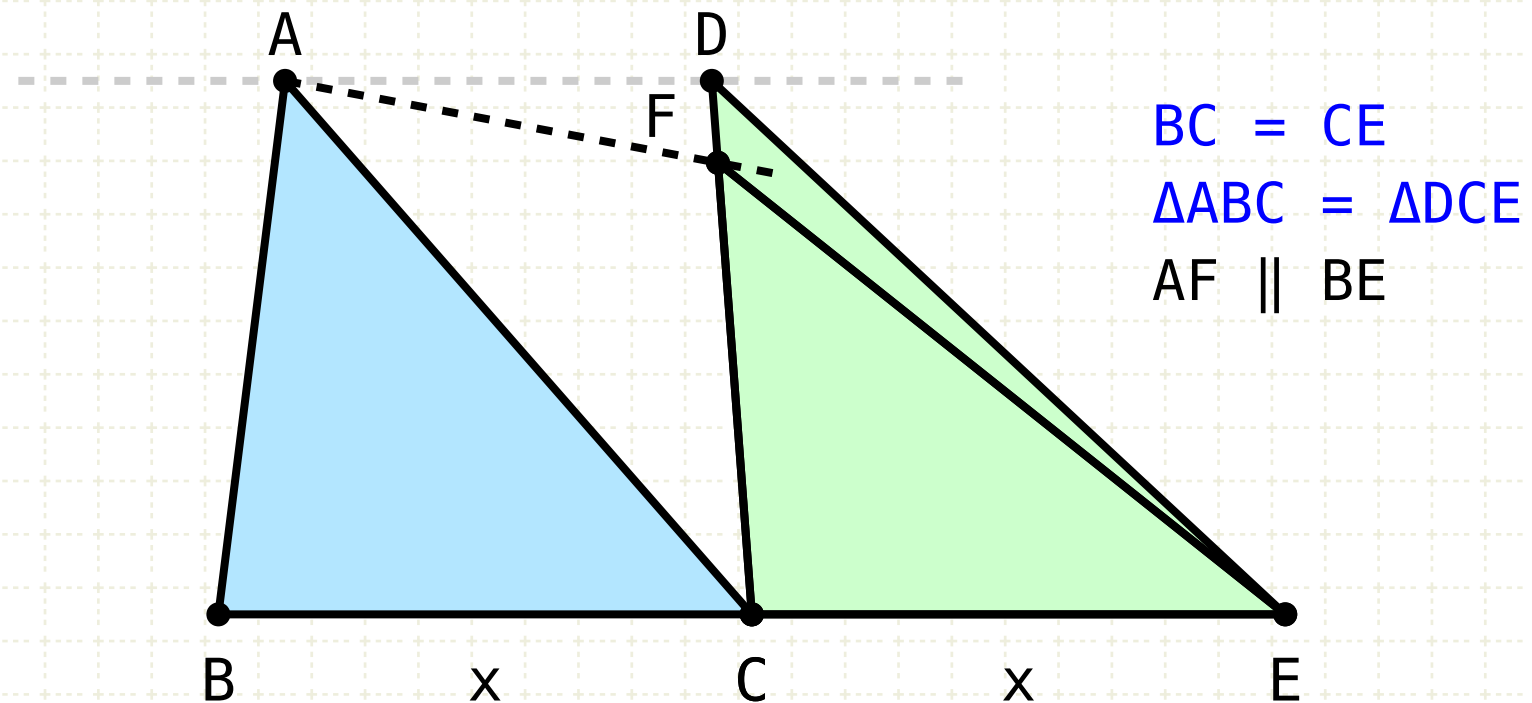The lines AD and BE are parallel

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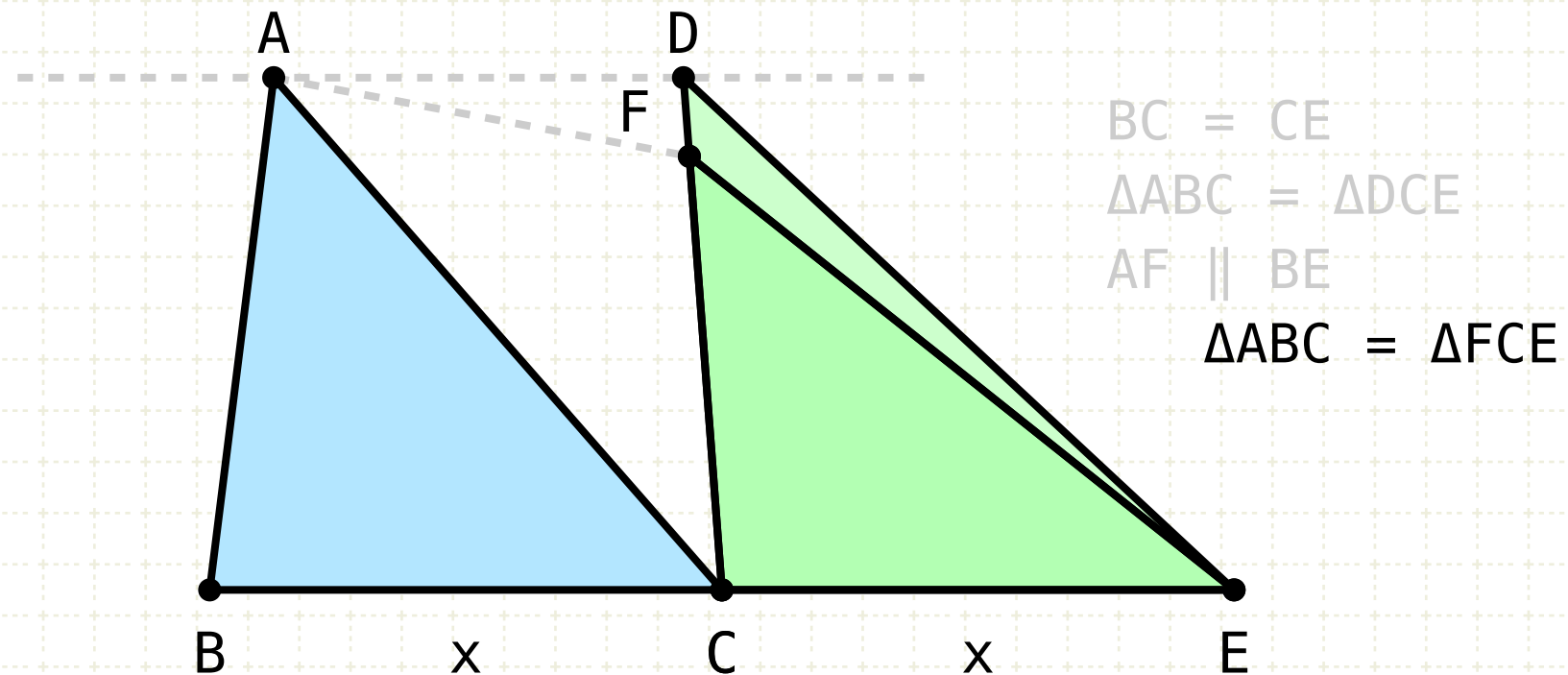The lines AD and BE are parallel

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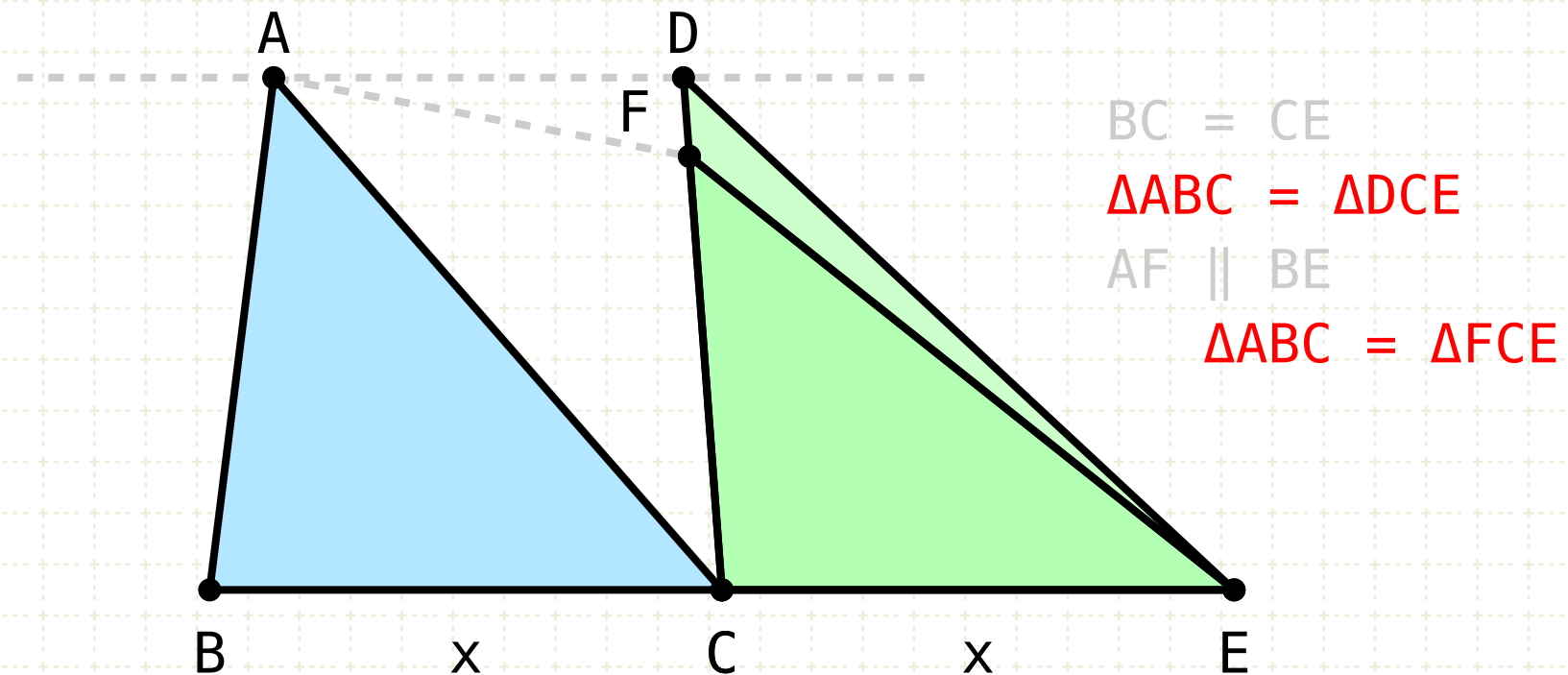
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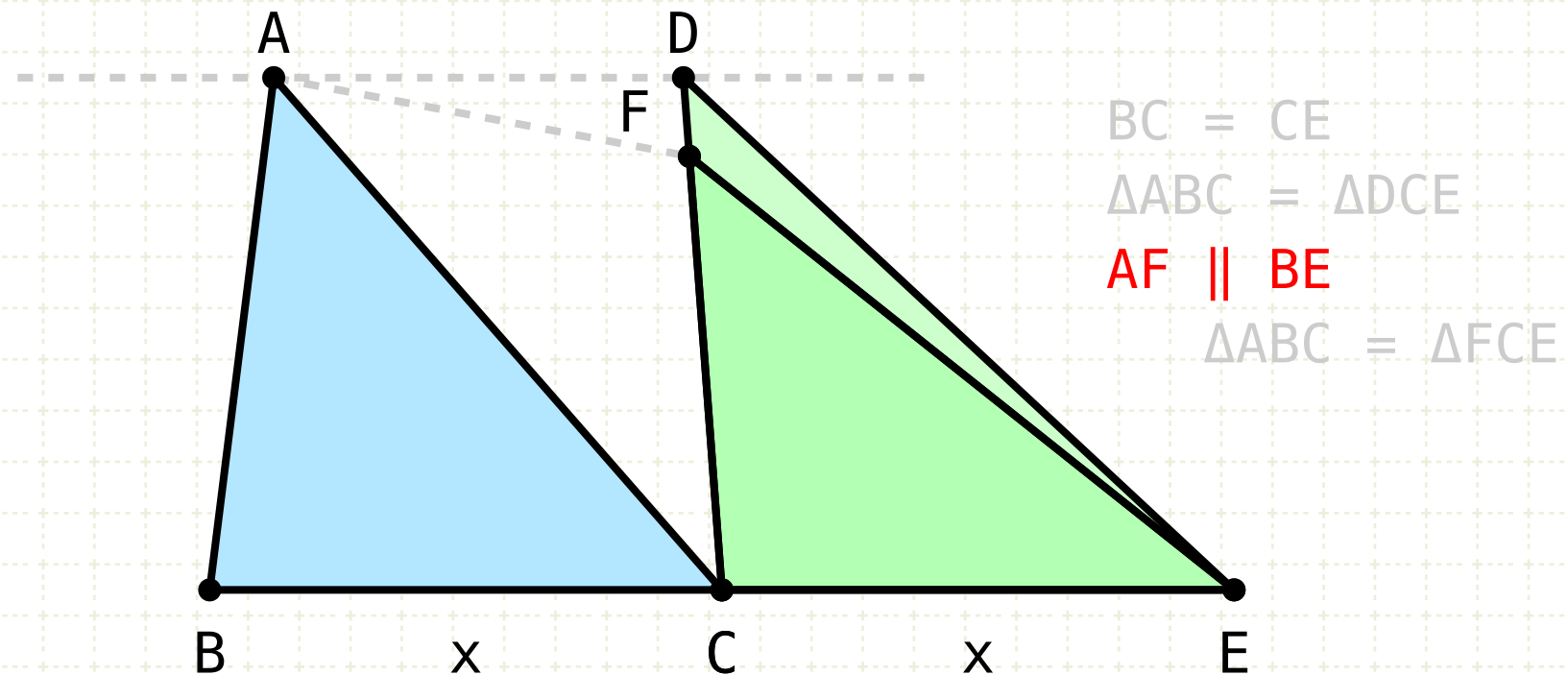Draw line AF, parallel to BE and passing point A and line DC

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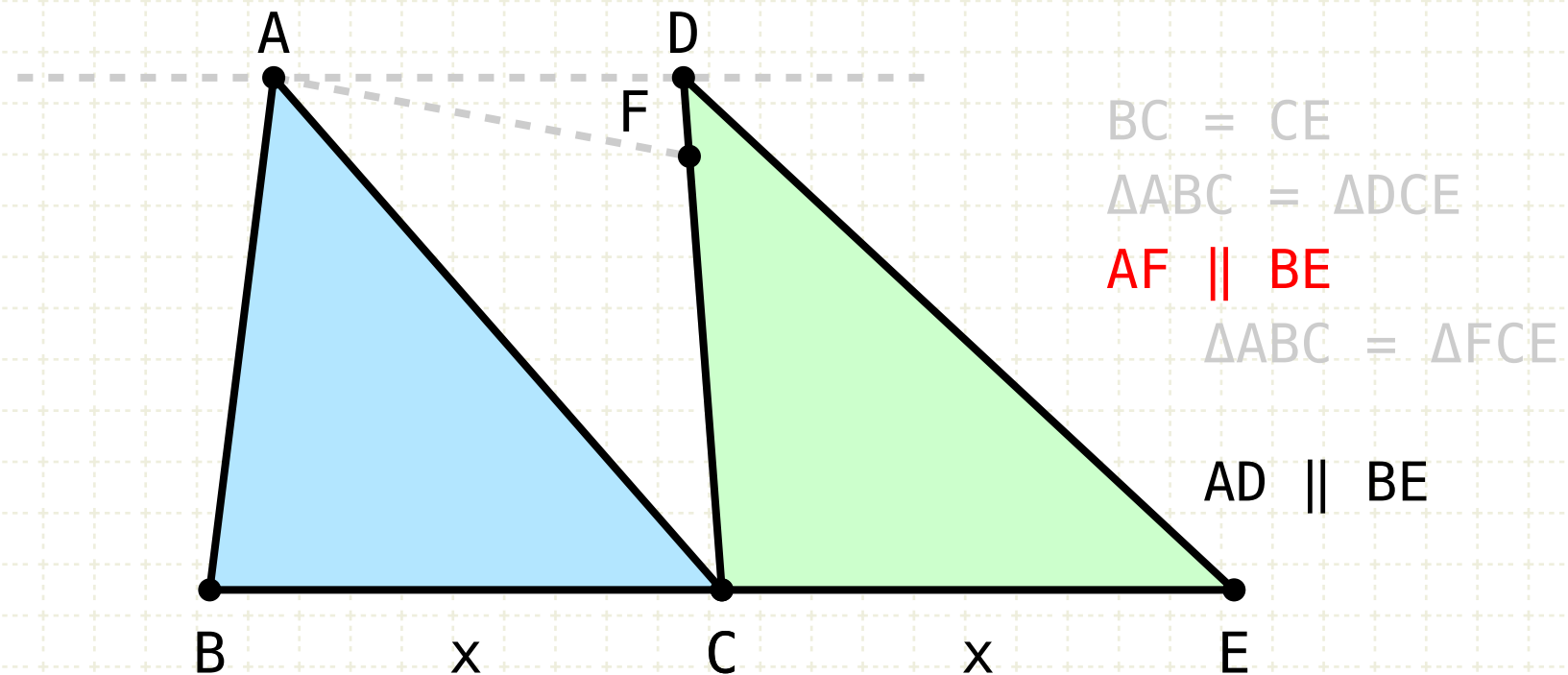Draw line AF, parallel to BE and passing point A and line DC

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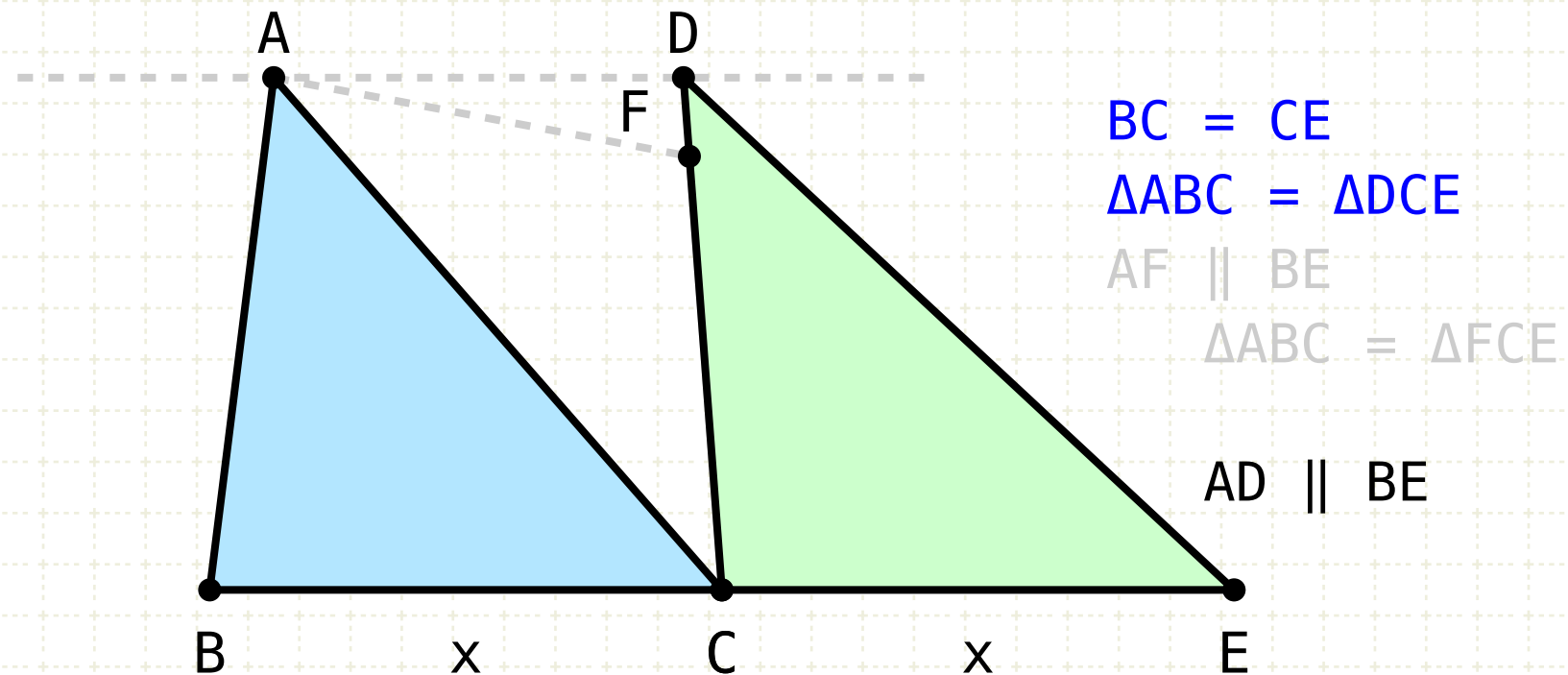Which is a contradiction to the initial definition that triangles ABC and DCE are equal

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