

when is a point inside a triangle

 ${\bf Canonical\ name} \quad {\bf When Is A Point Inside A Triangle}$

Date of creation 2013-03-22 15:22:22 Last modified on 2013-03-22 15:22:22

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Numerical id 5

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Suppose u, v are vectors in \mathbb{R}^2 , and

$$x = su + tv$$

for some $s,t\in\mathbb{R}.$ Then x is in the triangle spanned by u and v and the origin if and only if

$$s, t \ge 0, \quad s + t \le 1.$$