as a special case, and it transpires that as $n$ tends to infinity, the required length of rope converges to $\sqrt{2}$ (actually, this is asserted in [2], but the proof has a gap which is rectified in [3]).

*References*

1. mathworld.wolfram.com/GoatProblem.html
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## 101.18 Proof without words: relationship between inverse cotangents

$$\operatorname{arccot}(p) = \operatorname{arccot}(p+1) + \operatorname{arccot}(p^2+p+1)$$

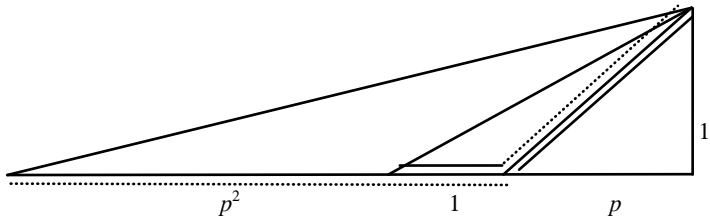



FIGURE 1

(Note that the dots and dashes label corresponding sides in similar triangles.)

*Acknowledgement*

Figure 1 is just a generalised version of that used by David Wells in his proof of the familiar 'three squares relation' in the *Archimedes Mathematics Education Newsletter* **3** (September 5, 2016).

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