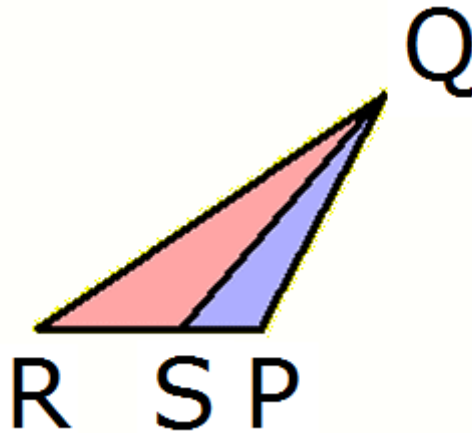


## Risp 40: Perimeter Ratio



RS is 2 units, SP is 1 unit.

Q moves so that the perimeter of the red triangle is double that of the blue.

What is the equation of the locus of Q?

What does this curve look like?

What is the maximum value of RQ?

Now Q moves so that the perimeter of the red triangle is  $k$  times that of the blue.

What is the equation of the locus of Q?

What does this curve look like as  $k$  varies?

What is the maximum value of RQ?