

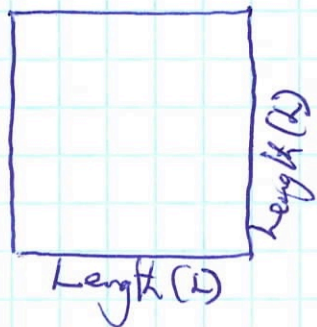
① Measuring line segments:

NB use the area of a square to find the length of a line segment

Also we can use the properties of a square to find its

✓ Area

✓ Side length (L)



Area of a square = length \times length
 = $(\text{Length})^2$

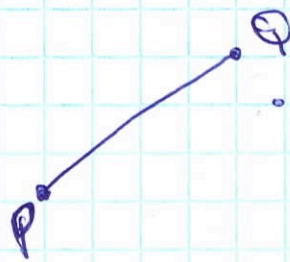
When the side length is L, the area is L^2

Therefore, we can calculate the length of any line segment on a grid by thinking of it as the side length of a square.

Example

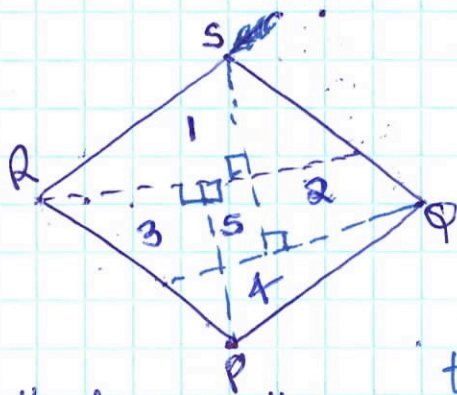
1. Find the length of line segment

PQ



sol:

use ruler and protractor to construct a square on line segment PQ.



Note, cut it

into small triangles & square. Now we've to get the area of five figures

Then, the length of the line segment is the square

root of the area

Area of a triangle = $\frac{1}{2}bh$

Where b = base of triangle

h = height of triangle.

Area of PQRS = Area of triangles + Area of small squares
 = 16 square units + 4 square units
 = 16 + 4 = 20 sq. units.

So, the side length of the square PQ = $\sqrt{20} = \underline{\underline{4.4}}$

$T_1 = \frac{1}{2} \times 4 \times 2 = 4$

But all triangles are equal
 Thus $T_1 \times 4 = 4 \times 4 = 16$

