



School:

Name of Student:

Sets: square

Further tools: paper, pencil, ruler, calculator

Date:

**STUDENT**

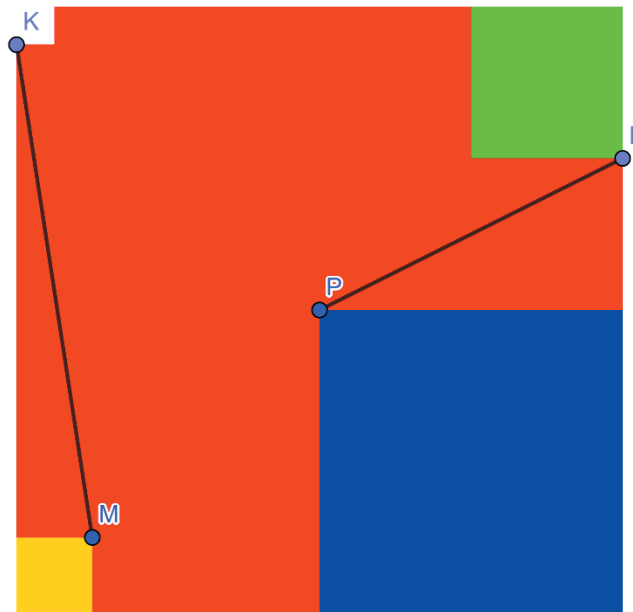
PUSE Task Number

**B**

**516**

**Description of the task:**

1. Calculate the length of line segments PM and KM. Do the calculations using parameters, let the length of the side of the basic element be  $a$ , then do the calculations with  $a=8$  cm, and eventually measure the length of one side and calculate the length of the given line segments.
2. What is the measure of the acute angle enclosed by line segment PF and the side of the blue square?



3. How many line segments can we draw so that the endpoints of each line segment are among the 15 vertices of squares?
4. How many of these line segments coincide with the sides of the squares?
5. Are there any line segments among the segments mentioned above which are of the same length?
6. Susanne claims that if we choose 2 vertices of the squares randomly, the probability of getting a line segment which coincides with a side of a square (rounded to 1 decimal) equals the probability of getting a line segment which does not coincide with a side of a square. John, on the other hand, claims that the probability of getting a line segment which does not coincide with a side of a square is at least three times the probability of getting a line segment which coincides with a side of a square. What do you think which of them is right?

**Solution(s) of the task:**

**Remarks / Self-evaluation:**