## 1. **Problem**

What is the distance between the two points p=(2,4) and q=(5,4) in a Cartesian coordinate system?

## Solution

The distance d of p and q is given by  $d^2 = (p_1 - q_1)^2 + (p_2 - q_2)^2$  (Pythagorean formula). Hence  $d = \sqrt{(p_1 - q_1)^2 + (p_2 - q_2)^2} = \sqrt{(2 - 5)^2 + (4 - 4)^2} = 3$ .

