

1. **Problem**

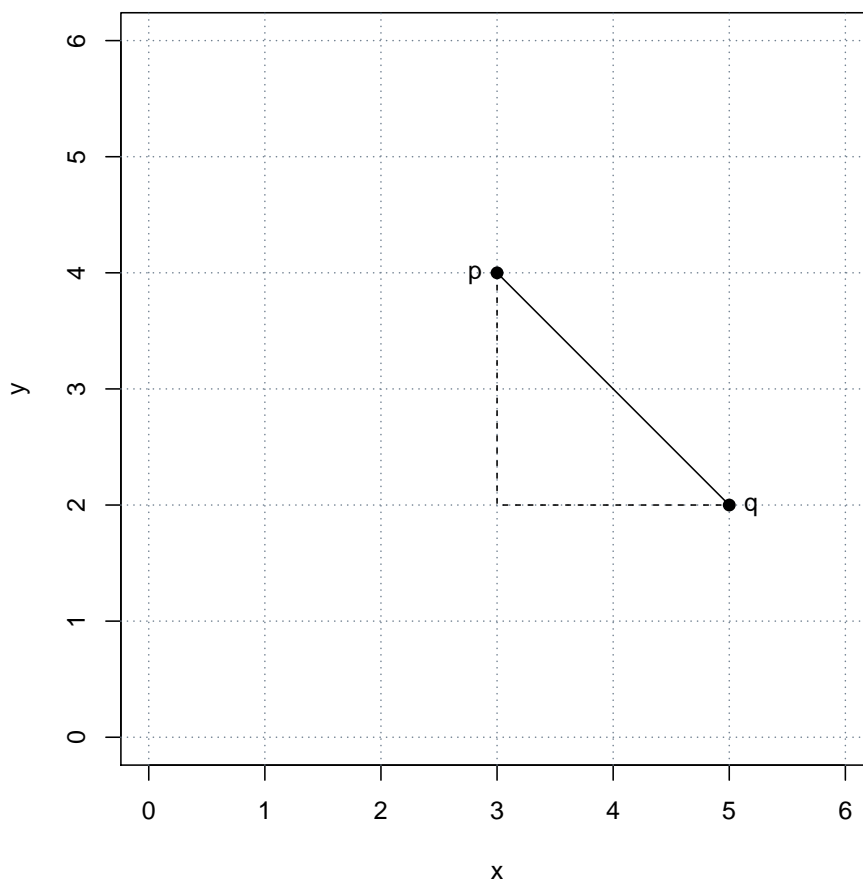
What is the distance between the two points $p = (3, 4)$ and $q = (5, 2)$ in a Cartesian coordinate system?

- (a) 4.058
- (b) 2.000
- (c) 0.827
- (d) 2.828
- (e) 4.848

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 $d = \sqrt{(p_1 - q_1)^2 + (p_2 - q_2)^2} = \sqrt{(3 - 5)^2 + (4 - 2)^2} = 2.828$.



- (a) False
- (b) False
- (c) False
- (d) True
- (e) False