

Quiz 3

Let A denote the midpoint of the line segment joining the points $(2, 3)$ and $(6, -1)$, and let B denote the midpoint of the line segment joining the points $(8, -7)$ and $(6, 1)$. Compute the distance from A to B .

Solution: The midpoint of the first segment is $A = \left(\frac{2+6}{2}, \frac{3-1}{2}\right) = (4, 1)$ and $B = \left(\frac{8+6}{2}, \frac{-7+1}{2}\right) = (7, -3)$. Therefore the distance between A and B is $d = \sqrt{(4-7)^2 + (1-(-3))^2} = \sqrt{25} = 5$.