

Advanced Challenge Level 2 Problem #18

Use calculus to solve the following problem. Show your complete solution neatly organized. Express your solutions rounded to 4 significant digits.

One point, point A, is moving along the x-axis at a constant speed of 4 units per second. A second point, point B, is moving along the y-axis at a constant speed of 6 units per second. If point A passes through the origin exactly 3 seconds before point B passes through the origin, then what is the minimum distance between the points?