

Therefore, the probability of B is $1/5$.

Geometry Problem: Intersecting Spheres

Given:

- Center of sphere K1: (1, 2, 3)
- Radius of sphere K1: 5
- Center of sphere K2: (3, -2, -1)
- Radius of sphere K2: 5

To show that K1 and K2 intersect, we need to show that the distance between their centers is less than the sum of their radii.

Distance between centers:

$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2 + (z_2 - z_1)^2}$$

$$d = \sqrt{(3 - 1)^2 + (-2 - 2)^2 + (-1 - 3)^2}$$

$$d = \sqrt{4 + 16 + 16}$$

$$d = \sqrt{36}$$

$$d = 6$$

Since 6 is less than the sum of the radii (10), K1 and K2 intersect.

Equations of Intersection:

To find the coordinates of the center and the radius of the intersecting circle, we can subtract the equations of the spheres.

$$x^2 - 2x + 1 - (x^2 + 6x + 9) = 0$$

$$y^2 - 4y + 4 - (y^2 + 4y + 4) = 0$$