The random variable X and Y have the following joint probability density

𝑓𝑋𝑌(𝑥,𝑦)= ; 0<𝑥<∞, 0<𝑦<∞

0; 𝑒𝑙𝑠𝑒𝑤ℎ𝑒𝑟𝑒

What is 𝑃(𝑋<𝑌) ?

𝑃(𝑋<𝑌)means condition of having x less than Y, the upper limit of x is inf changes to Y and the lower limit we already know, is Zero.

Ans: