

Step-1

Let $y_1(x), y_2(x), y_3(x)$ are three different functions of x

Let W be the vector space spanned by $y_1(x), y_2(x), y_3(x)$

$\dim W = 1$ if $y_1(x) = x, y_2(x) = 3x, y_3(x) = 5x$

$\dim W = 2$ if $y_1(x) = x, y_2(x) = x^2, y_3(x) = 2x - 3x^2$

$\dim W = 3$ if $y_1(x) = x, y_2(x) = x^2, y_3(x) = x^3$