

1 Questão 1.

1.

A equação do função de multiplicar:

$$multi(x, 0) = 0$$

$$multi(x, y + 1) = multi(x, y) + x$$

Dado:

$$multi(x, y) = x * y = \overbrace{x + \dots + x}^y \text{ é}$$

Logo:

$$multi(x, 0) = f(x) = z(x)$$

$$multi(x, y + 1) = g(x, y, multi(x, y)) = soma(u_3^3(x_1, x_2, x_3), u_1^3(x_1, x_2, x_3))$$

Nesse caso:

$$g(x_1, x_2, x_3) = soma(u_3^3(x_1, x_2, x_3), u_1^3(x_1, x_2, x_3))$$

$$\begin{aligned} multi(3, 2) &= multi(u_3^3(3, 1, multi(3, 1)), u_1^3(3, 1, Exp(3, 1))) \\ &= soma(multi(3, 1), 3) \\ &= soma((soma(u_3^3(3, 0, multi(3, 0))), u_1^3(3, 0, multi(3, 0))), 3) \\ &= soma(soma(multi(3, 0), 3)3) \\ &= soma(soma(1, 3), 3) \\ &= soma(3, 3) \\ &= 6 \end{aligned}$$