Solución

$$\frac{d}{dx}\left(r(x)x\left(1-\frac{x}{K(x)}\right)\left(\frac{x}{A}-1\right)\right)=\frac{d}{dx}(r(x))x\left(1-\frac{x}{K(x)}\right)\left(\frac{x}{A}-1\right)+\left(\frac{x^3\frac{d}{dx}(K(x))-Ax^2\frac{d}{dx}(K(x))-3x^2K(x)+2AxK(x)+2xK(x)^2}{AK(x)^2}-\right.$$

Pasos

$$\frac{d}{dx}\left(r(x)x\left(1-\frac{x}{K(x)}\right)\left(\frac{x}{A}-1\right)\right)$$

Aplicar la regla del producto: $(f\cdot g)'=f'\cdot g+f\cdot g'$

$f=r(x),\ g=x\left(1-\frac{x}{K(x)}\right)\left(\frac{x}{A}-1\right)$

$$=\frac{d}{dx}(r(x))x\left(1-\frac{x}{K(x)}\right)\left(\frac{x}{A}-1\right)+\frac{d}{dx}\left(x\left(1-\frac{x}{K(x)}\right)\left(\frac{x}{A}-1\right)\right)r(x)$$

$$\frac{d}{dx}\left(x\left(1-\frac{x}{K(x)}\right)\left(\frac{x}{A}-1\right)\right)=\frac{x^3\frac{d}{dx}(K(x))-Ax^2\frac{d}{dx}(K(x))-3x^2K(x)+2AxK(x)+2xK(x)^2}{AK(x)^2}-1$$

Mostrar pasos

$$=\frac{d}{dx}(r(x))x\left(1-\frac{x}{K(x)}\right)\left(\frac{x}{A}-1\right)+\left(\frac{x^3\frac{d}{dx}(K(x))-Ax^2\frac{d}{dx}(K(x))-3x^2K(x)+2AxK(x)+2xK(x)^2}{AK(x)^2}-1\right)r(x)$$