Seminario 1

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1.

a)

$$RE_{x\cdot y} \approx \frac{y}{xy}\frac{\partial xy}{\partial y}RE_y + \frac{x}{xy}\frac{\partial xy}{\partial x}RE_x = RE_x + RE_y$$

b)

$$RE_{x/y} \approx \frac{x}{x/y}\frac{\partial x/y}{\partial x}RE_x + \frac{y}{x/y}\frac{\partial x/y}{\partial y}RE_y = RE_x - RE_y$$

c)

$$RE_{x+y} \approx \frac{x}{x+y}\frac{\partial x+y}{\partial x}RE_x + \frac{y}{x+y}\frac{\partial x+y}{\partial y}RE_y = \frac{x}{x+y}RE_x + \frac{y}{x+y}RE_y$$

d)

$$RE_{\sqrt{x}} \approx \frac{x}{\sqrt{x}}\frac{\partial\sqrt{x}}{\partial x}RE_x = \frac{1}{2}RE_x$$

2.

$$RE_{\sqrt{3+\lg^2 x}} \approx \frac{1}{2}RE_{3+\lg^2 x} \approx \frac{3}{6+2\lg^2 x}RE_3 + \frac{\lg^2 x}{6+2\lg 2x}RE_{\lg^2 x}$$

$$\approx \frac{3}{6+2\lg^2 x}\varepsilon + \frac{\lg^2 x}{6+2\lg 2x}2RE_{\lg x} \approx \frac{3}{6+2\lg^2 x}\varepsilon + \frac{\lg^2 x}{6+2\lg 2x}10\varepsilon$$

$$\frac{3+10\lg^2 x}{6+2\lg^2 x}\varepsilon$$