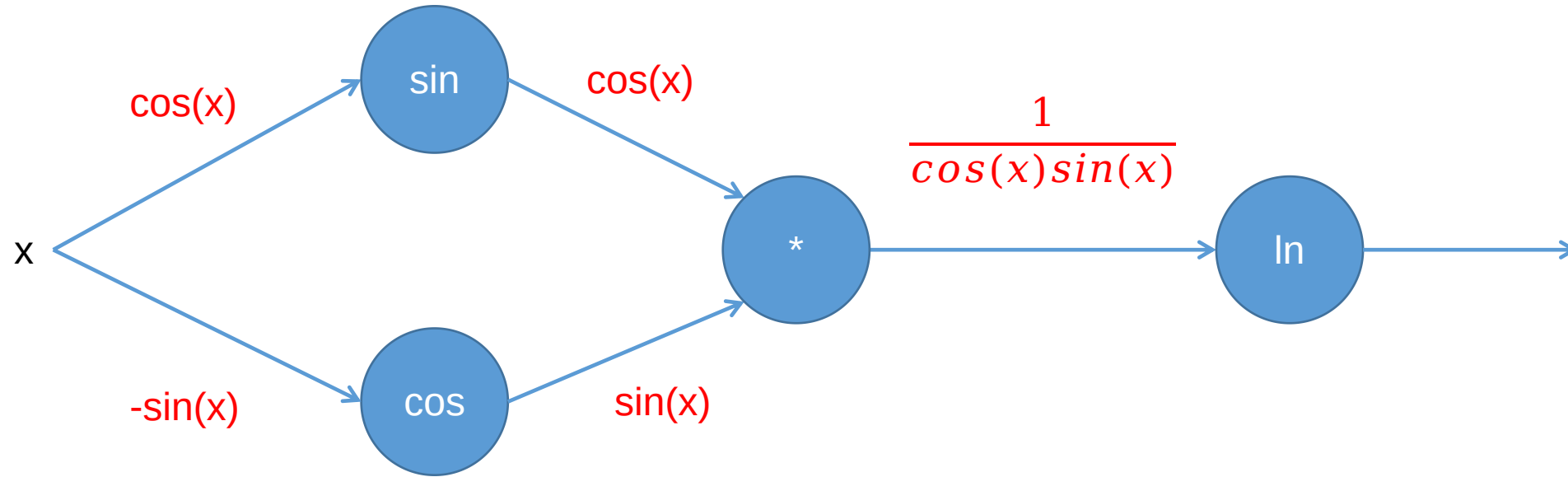
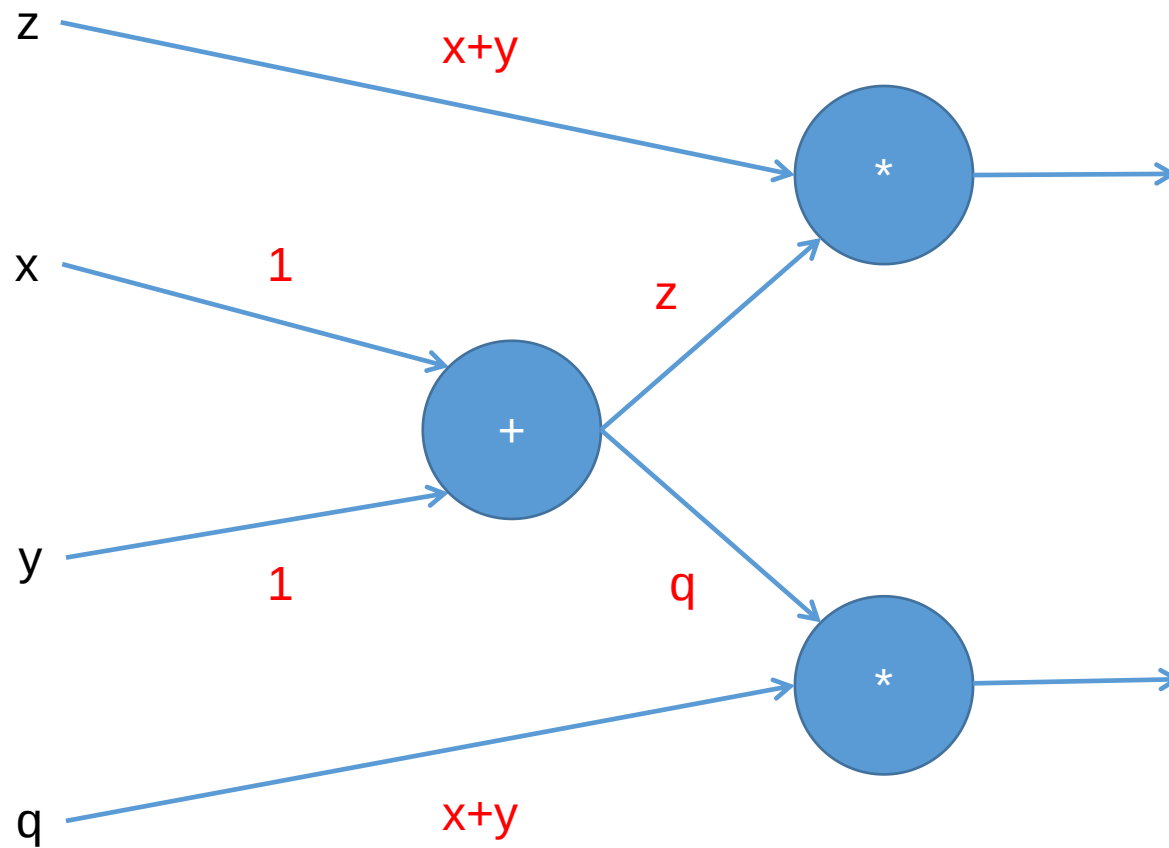


**Exercises:**  $f(x) \mathbb{R} \rightarrow \mathbb{R} : \ln(\sin(x) \cdot \cos(x))$



$$\cos(x)\cos(x) \cdot \frac{1}{\cos(x)\sin(x)} - \sin(x)\sin(x) \cdot \frac{1}{\cos(x)\sin(x)} = \frac{\cos(x)}{\sin(x)} - \frac{\sin(x)}{\cos(x)} = \cotan(x) - \tan(x)$$

**Exercises:**  $f(x, y, z, q) : \mathbb{R}^4 \rightarrow \mathbb{R}^2 : \begin{pmatrix} (x + y) \cdot z \\ (x + y) \cdot q \end{pmatrix}$



**Exercises:**  $(x + y)\sin(x)$  *where  $x = \pi$  and  $y = \pi$*

