

**Problem statement** Find the limits for the following indeterminate forms of the type “ $\infty - \infty$ ”.

a)  $\lim_{x \rightarrow 0} \frac{1}{\sin x} - \frac{1}{x}$ .

b)  $\lim_{x \rightarrow 0} \frac{1}{x^2} - \frac{1}{x}$ .

c)  $\lim_{x \rightarrow 0} \frac{1+x}{x} - \frac{1-x}{x}$ .