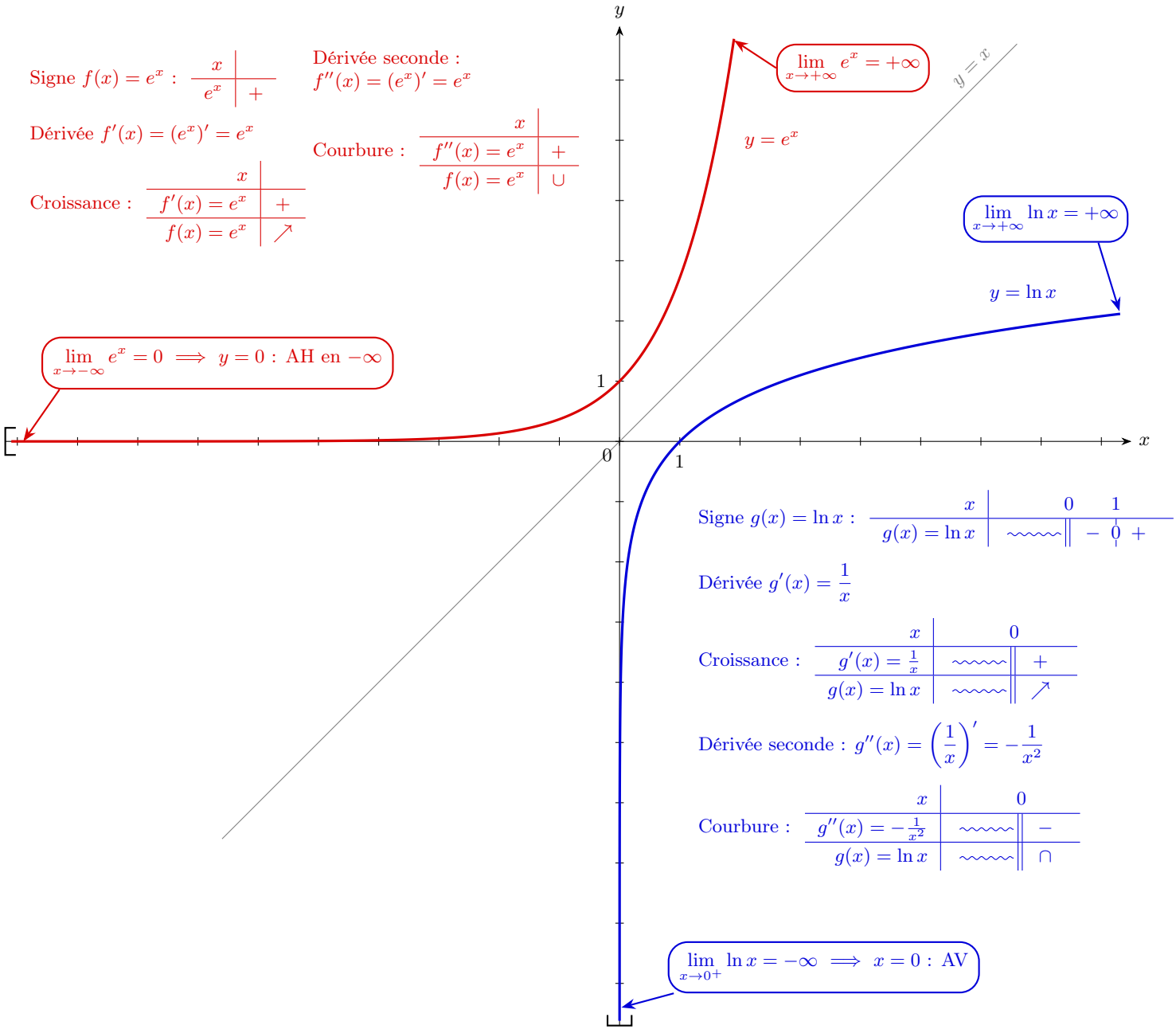

Signe $f(x) = e^x$:
x | $-\infty$ | $+\infty$
e^x | + |
Dérivée $f'(x) = (e^x)' = e^x$
Croissance :
x | $-\infty$ | $+\infty$
$f'(x) = e^x$ | + |
$f(x) = e^x$ | ↗ |
Dérivée seconde :
$f''(x) = (e^x)' = e^x$
Courbure :
x | $-\infty$ | $+\infty$
$f''(x) = e^x$ | + |
$f(x) = e^x$ | ∪ |
$\lim_{x \to +\infty} e^x = +\infty$
$y = e^x$
$y = x$
$\lim_{x \to +\infty} \ln x = +\infty$
$y = \ln x$
$\lim_{x \to -\infty} e^x = 0 \implies y = 0$: AH en $-\infty$
y
x
0
1
1
Signe $g(x) = \ln x$:
x | 0 | 1
$g(x) = \ln x$ | ‖ | − 0 +
Dérivée $g'(x) = \frac{1}{x}$
Croissance :
x | 0
$g'(x) = \frac{1}{x}$ | ‖ | +
$g(x) = \ln x$ | ‖ | ↗
Dérivée seconde : $g''(x) = \left(\frac{1}{x}\right)' = -\frac{1}{x^2}$
Courbure :
x | 0
$g''(x) = -\frac{1}{x^2}$ | ‖ | −
$g(x) = \ln x$ | ‖ | ∩
$\lim_{x \to 0^+} \ln x = -\infty \implies x = 0$: AV