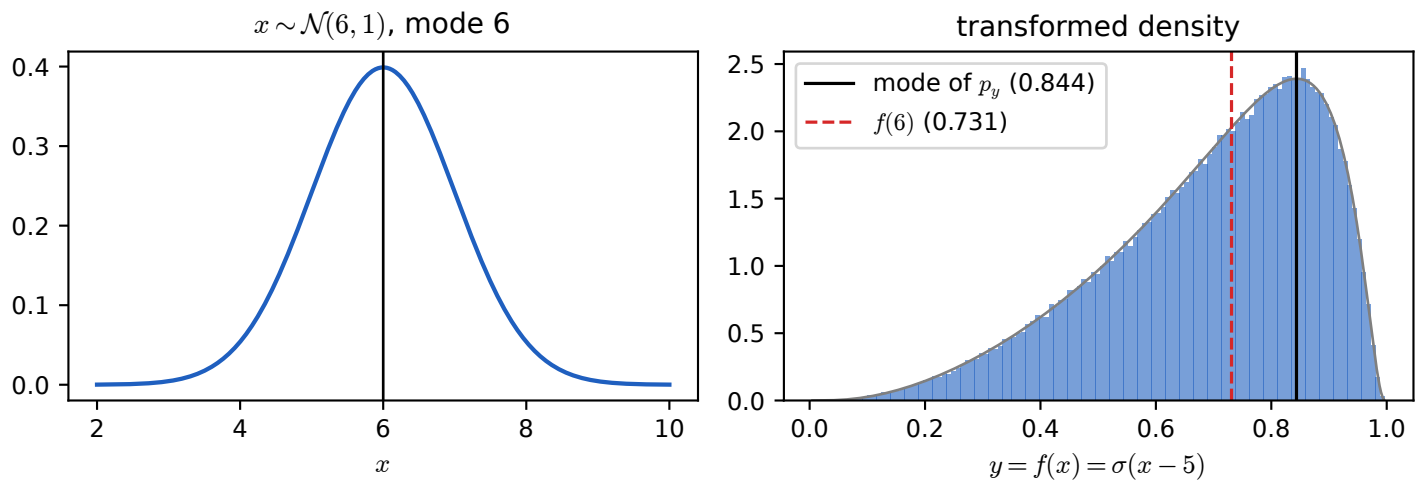

$x \sim \mathcal{N}(6, 1)$, mode 6
0.4
0.3
0.2
0.1
0.0
2
4
6
8
10
$x$
transformed density
mode of $p_y$ (0.844)
$f(6)$ (0.731)
2.5
2.0
1.5
1.0
0.5
0.0
0.0
0.2
0.4
0.6
0.8
1.0
$y = f(x) = \sigma(x - 5)$