AMM Constant Product Market Maker ($x \cdot y = k$)

$x \cdot y = k$ (Constant Product)
Price: $P = y/x$
Slippage increases nonlinearly (convex) with trade size

Legend:
- $x \cdot y = k$ ($k = 10^6$)
- Start (1000, 1000), price = 1.0

Buy 500 X
price 2.000 Y/X
slip 100.0%

Buy 100 X
price 1.111 Y/X
slip 11.1%

Constant product
k = 1,000,000

Inset: Price slippage

Trade size (X)	Slippage
10	1.0%
50	5.3%
100	11.1%
200	25.0%
500	100.0%

Token X reserve (tokens)
Token Y reserve (tokens)