By: Amulya Baniya

Hint:
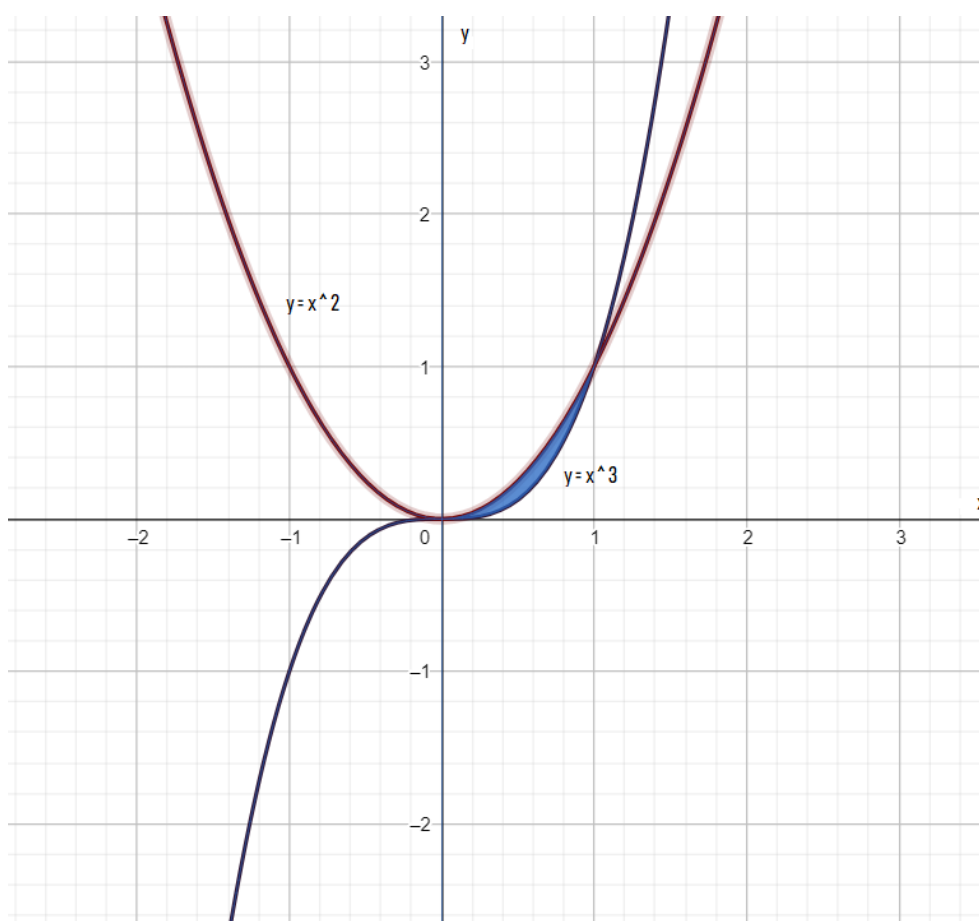

The region bounded by the curves is highlighted in blue.