

Starting inventory (fees = 25bp taker, 10bp maker):

BuyEx: \$20,000 and 1 BTC

SellEx: \$20,000 and 1 BTC

Total: \$40,000 and 2 BTC

Trade: Buy 1 BTC on BuyEx @ **\$10,000**

Sell 1 BTC on SellEx @ **\$10,100**

A1. Both sides fill immediately.

BuyEx: after trade and \$25.00 in taker fees = \$9,975.00 and 2 BTC

SellEx: after trade and \$25.25 in taker fees = \$30,074.75 and 0 BTC

Total: \$40,049.75 and 2 BTC

Outcome: \$49.75 profit

A2. Buy fills immediately. Sell fills eventually

BuyEx: after trade and \$25.00 in taker fees = \$9,975.00 and 2 BTC

SellEx: after trade and \$10.10 in maker fees = \$30,089.90 and 0 BTC

Total: \$40,064.90 and 2 BTC

Outcome: \$64.90 profit

A3. Sell fills immediately. Buy fills eventually

BuyEx: after trade and \$10.00 in maker fees = \$9,990.00 and 2 BTC

SellEx: after trade and \$25.25 in taker fees = \$30,074.75 and 0 BTC

Total: \$40,064.75 and 2 BTC

Outcome: \$64.75 profit

A4. Both sides fill eventually

BuyEx: after trade and \$10.00 in maker fees = \$9,990.00 and 2 BTC

SellEx: after trade and \$10.10 in maker fees = \$30,089.90 and 0 BTC

Total: \$40,079.90 and 2 BTC

Outcome: \$79.90 profit

B1. Buy fills immediately. Sell is canceled (never fills)

BuyEx: after trade and \$25.00 in taker fees = \$9,975.00 and 2 BTC

SellEx: canceled = \$20,000 and 1 BTC

Total: \$29,975 and 3 BTC

Outcome: 1 BTC bought @ \$10,025

B2. Buy fills eventually. Sell is canceled (never fills)

BuyEx: after trade and \$10.00 in maker fees = \$9,990.00 and 2 BTC

SellEx: canceled = \$20,000 and 1 BTC

Total: \$29,990 and 3 BTC

Outcome: 1 BTC bought @ \$10,010

S1. Sell fills immediately. Buy is canceled (never fills)

BuyEx: canceled = \$20,000.00 and 1 BTC

SellEx: after trade and \$25.25 in taker fees = \$30,074.75 and 0 BTC

Total: \$50,074.75 and 1 BTC

Outcome: 1 BTC sold @ \$10,074.75

S2. Sell fills eventually. Buy is canceled (never fills)

BuyEx: canceled = \$20,000.00 and 1 BTC

SellEx: after trade and \$10.10 in taker fees = \$30,089.90 and 0 BTC

Total: \$50,089.90 and 1 BTC

Outcome: 1 BTC sold @ \$10,089.90

X. Both sides canceled

Y. Partial fill