

Worksheet

Movie Theater	Year One	Year Two	Year Three	Year Four
Ticket Price(xQ)	\$5.00 (x2000)	\$5.50 (x1800)	\$6.50 (x1600)	\$7.00 (x1500)
Popcorn (xQ)	\$3.00 (x1200)	\$3.25 (x1200)	\$4.00 (x1000)	\$4.25 (x1000)

1. Nominal Revenues:

[Year One: Tickets (PxQ) + Popcorn (PxQ)]

$$(5 \times 2000) + (3 \times 1200) = \$13,600$$

[Year Two: Tickets (PxQ) + Popcorn (PxQ)]

$$(5.50 \times 1800) + (3.25 \times 1200) = \$13,800$$

[Year Three: Tickets (PxQ) + Popcorn (PxQ)]

$$(6.50 \times 1600) + (4 \times 1000) = \$14,400$$

[Year Four: Tickets (PxQ) + Popcorn (PxQ)]

$$(7 \times 1500) + (4.25 \times 1000) = \$14,750$$

2. Real Revenues:

[Year One: Tickets (PxQ) + Popcorn (PxQ)]

$$(5 \times 2000) + (3 \times 1200) = \$13,600$$

[Year Two: Tickets (P_{y1} x Q) + Popcorn (P_{y1} xQ)]

$$(5 \times 1800) + (3 \times 1200) = \$12,600$$

[Year Three: Tickets (P_{y1} x Q) + Popcorn (P_{y1} xQ)]

$$(5 \times 1600) + (3 \times 1000) = \$11,000$$

[Year Four: Tickets (P_{y1} x Q) + Popcorn (P_{y1} xQ)]

$$(5 \times 1500) + (3 \times 1000) = \$10,500$$

3. Deflator:

[Year One: $(13,600/13,600) \times 100 = 100$

Year Two: $(13,800/12,600) \times 100 = 110$

Year Three: $(14,400/11,000) \times 100 = 131$

Year Four: $(14,750/10,500) \times 100 = 140$

4. Inflation:

[Year One to Year Two: $\{(113/100) - 1\} \times 100\% = 10\%$ rise in prices

Year One to Year Two: $\{(131/110) - 1\} \times 100\% = 19\%$ rise in prices

Year One to Year Two: $\{(140/131) - 1\} \times 100\% = 6.9\%$ rise in prices

Overall increase from Year One to Year Four : $\{(140/100) - 1\} \times 100\% = 40\%$

5. Summary:

[Answer will vary. A correct summary should say something about how the increased revenues were due to increased prices and not increased output. The price inflation could mislead the theater owner into thinking the business is doing better year to year when actually the number of customers he has is decreasing. Further price increases may result in a drop in revenue as customers rebel against the ever rising prices.]