

1a) Jill's shoe purchase at \$ 29.99

Rule: A rational consumer buys until Marginal Benefit (MB) $\geq$ Price (P)

Pair	MB (\$)	Price (\$)	Buy?
1	50	29.99	Yes
2	40	29.99	Yes
3	30	29.99	Yes
4	20	29.99	No
5	10	29.99	No

Answer: Jill buys 3 pairs per year.

1b) Jill's purchases if price rises to \$ 39.99

Pair	MB (\$)	Price (\$)	Buy?
1	50	39.99	Yes
2	40	39.99	Yes
3	30	39.99	No

Answer: Jill buys 2 pairs per year.

Joe's share purchase at \$29.99

$$\text{Joe's MB} = 2 \times \text{Jill's MB}$$

Pairs	Jill's MB	Joe's MB	Price (\$)	Buy?
1	50	100	29.99	Yes
2	40	80	29.99	Yes
3	30	60	29.99	Yes
4	20	40	29.99	Yes
5	10	20	29.99	NO

Answer: Joe buys 4 pairs per year