Answers: Marginal Benefit of Shoes Problem

1(a) Assuming Jill is rational and the price of shoes accurately reflects the marginal cost to her: Jill will buy shoes until marginal benefit (MB) is greater than or equal to the price ($29.99).
• 1st pair: MB = $50 > $29.99 → Buy
• 2nd pair: MB = $40 > $29.99 → Buy
• 3rd pair: MB = $30 ≈ $29.99 → Buy
• 4th pair: MB = $20 < $29.99 → Stop
Answer: Jill will buy 3 pairs per year.

1(b) Suppose the price of shoes increases to $39.99 per pair:
• 1st pair: MB = $50 > $39.99 → Buy
• 2nd pair: MB = $40 > $39.99 → Buy
• 3rd pair: MB = $30 < $39.99 → Stop
Answer: Jill will buy 2 pairs per year.

2) Joe's marginal benefit is double Jill's. Price = $29.99:
Joe's marginal benefits = [100, 80, 60, 40, 20].
• 1st pair: MB = $100 > $29.99 → Buy
• 2nd pair: MB = $80 > $29.99 → Buy
• 3rd pair: MB = $60 > $29.99 → Buy
• 4th pair: MB = $40 > $29.99 → Buy
• 5th pair: MB = $20 < $29.99 → Stop
Answer: Joe will buy 4 pairs per year.