Question 1

1. Arik took his daughter’s baseball team to see a Nationals game, and spent a total of $61.50 on hot dogs and sodas. What is the price of each soda if he buys 9 hot dogs and 7 sodas, and each hot dog costs $4.50?

Please enter 2 digits after the decimal point.

Scenario

The budget line in the graphs in these problems represents all the combinations of popcorn and pretzels that Rebecca can buy. Adjust the budget line (or if no change is required, leave it in its current position) to demonstrate the effect of each of the following changes. To adjust the position of the line, grab a circle on one of the axes and drag it along the axis. If it snaps back to its original position, try dragging it farther.

2.1. The price of popcorn increases.
**Question 2.2**

2.2. The price of popcorn decreases.

**Question 2.3**

2.3. The price of pretzels increases.
Question 2.4

2.4. The price of pretzels decreases.

Question 2.5

2.5. Income increases.
2.6. Income decreases.

3. What happens to a budget line if all prices increase by 5% and income increases by 10%?

- A. The budget line will remain the same.
- B. The budget line will shift out, remaining parallel to the original budget line.
- C. The budget line will shift in, remaining parallel to the original budget line.
- D. The budget line will pivot about the intercept on the axis for the good that the consumer buys more of.

Question 4

4. Ann has $48 with which to buy CDs and DVDs from the discount bin. Each CD costs $8, while each DVD costs $12. Plot Ann's budget line by clicking on the two points that represent the endpoints. The data-plotting tool will automatically connect the points with a line.
Question 5

5. Ann has $48 with which to buy CDs and DVDs from the discount bin. Each CD costs $8. The regular price for each DVD is $12, but today they are on sale for 50% off the regular price. Plot Ann’s budget line by clicking on the two endpoints. The data-plotting tool will automatically connect the points with a line.

![Budget Line Diagram for Question 5](image1)

Question 6

6. Vanessa consumes two goods—new DVDs that cost $20 each and leisure. After allowing for sleep and personal care, she has 70 free hours each week and must split these hours between work to earn money to buy DVDs and leisure activities such as personal time or socializing with friends. Vanessa’s wage is $10 per hour. By law, she cannot work more than 40 hours per week. Also, Vanessa’s grandfather gives her $100 each week to spend on consumption.

Plot Vanessa’s budget line by clicking on the two endpoints. The data-plotting tool will automatically connect the points with a line.

Hint: This problem is different from other problems you have seen. Because of the restrictions on her ability to work and because of the gift of income from her grandfather, Vanessa’s budget line does not intersect either the vertical or horizontal axes. You can think of this as a kinked budget line like the one I drew pertaining to food stamps, except that you do not draw the flat portion connecting to the vertical axis, nor do you draw the vertical portion connecting to the horizontal axis.

If you think about it, there is no reason to draw these portions of the budget line, because consumers will never choose to be on them. Along the flat portion, the opportunity cost of the good on the bottom axis is zero. Along the vertical portion, the opportunity cost is infinite. Because of our assumption that “more is better,” consumers would always rather be on the kink points than on the flat or vertical portions of a budget line.

![Budget Line Diagram for Question 6](image2)

Question 7

7. Dave consumes two goods, Sushi and McDonalds happy meals. He has $240 per month to spend on them. Suppose the price of a Sushi dinner is $40 and the price of a happy meal is $5.

Suppose Dave tells you that, given these prices and his budget constraint, his optimal consumption is 3 Sushi dinners and 24 happy meals per month.

Now assume that the price of Sushi rises to $60 per dinner, and the price of happy meals falls to $2.50 per meal. (Fractions of dinners are okay.) Is Dave better off, worse off, or indifferent as a result of the price change? Why?

One more thing. Dave’s cross price elasticity between happy meals and sushi 0.57.

- A. better off
- B. worse off
- C. indifferent

![Budget Line Diagram for Question 7](image3)
Question 8

Suppose that you have an income of $480 per month to purchase food and clothing. The price of food is $10 per meal, and the price of clothing is $12 per article. At your consumer optimum you decide to purchase 30 meals and 15 articles of clothing.

One day, you see that a local discount store advertises a deal. You can become a member of the store for $120 per month. As a member, your price for food will be $9 and your price for clothing will be $6.

Should you join, and why? (Hint: I suspect there is no way you can answer this question without drawing a graph for yourself.)

A. Join
B. Don't join
C. Indifferent