Name: ____________________________________________

1. Perloff, fourth edition: question 2 page 139  
The income effect reinforces the substitution effect for normal goods. It partially offsets the substitution effect for inferior goods. When it more than offsets the substitution effect, it is known as a Giffen good.

2. Perloff, fourth edition: question 3 page 139  
a) The substitution effect causes her to buy more clothing. The convexity of indifference curves assures that the substitution effect will always be positive for a price decrease.  
b) The income effect could be either positive or negative depending on whether clothing is a normal or inferior good for Cora.

In order for him to be maximizing his utility, he must set his consumption such that the marginal utility per dollar ($MU/p$) of the last unit consumed is equal across commodities. In this case:

\[ \frac{10}{10} \neq \frac{5}{2} \]

Specifically, the marginal utility per dollar is greater for cookies. Therefore, he should decrease his consumption of books and increase his consumption of cookies.

4. Perloff, fourth edition: problem 33 page 142  
The marginal rate of substitution is $B/C$. The marginal condition is $B/C = 1/2 \Rightarrow B = 1/2C$  
Substituting into the budget constraint yields:

\[
\begin{align*}
2B + C &= 120 \\
2C &= 120 \\
C^* &= 60, \quad B^* = 30 
\end{align*}
\]

When the price changes due to the tax, the new marginal condition is $B = 1/3C$  
Substituting into the new budget constraint yields:

\[
\begin{align*}
3B + C &= 120 \\
2C &= 120 \\
C^* &= 60, \quad B^* = 20 
\end{align*}
\]

5. Perloff, fourth edition: problem 34 page 142  
Following Appendix 4B,  
\[
B = \frac{1}{4} \frac{Y}{p_B}, \quad Z = \frac{3}{4} \frac{Y}{p_Z}
\]