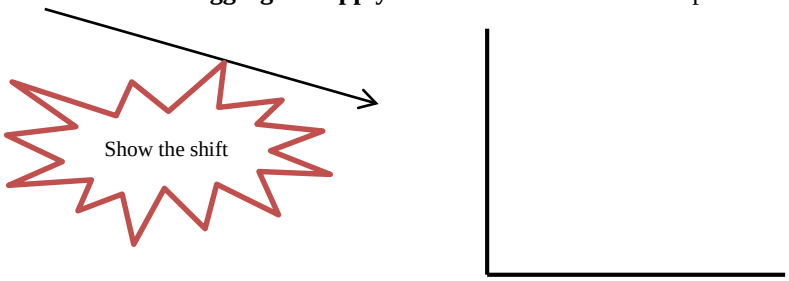
DUE DATE: _____ **NAME: _____**

UNIT 10: ECONOMIC HEALTH INDICATORS: GDP AND CPI WORKSHEET

USE THE LECTURE NOTES TO ANSWER THE FOLLOWING QUESTIONS (10 pts each)

1. Using the template below, correctly label price level, aggregate output, aggregate demand, and aggregate supply. Then **illustrate a shift of aggregate supply** that results in decreased output with an increased price level.



2. G.D.P. stands for what?

3. The formula for GDP is….?

4. In the "G" of the GDP formula why do we not count Welfare and Social Security payments?

5. How do you calculate Net Exports?

6. Why has Net Exports been negative the last few years?

7. Out of all the GDP components (C + I + G + NX), what makes up the largest percent of the total GDP number? (use the pie chart)

8. Name **5 items NOT** included in the GDP calculation.

9. Using the example of how to account for a desk, why would you **NOT** counted all the transactions that it took to produce the desk?

10. What is the difference between **Nominal** and **Real** GDP?

11. The Consumer Price Index (CPI) is used to calculate what?

12. What is the "**Market Basket**"?

13. Calculate the **Consumer Price Index** for 2002 if the base year is 2000. This method does NOT account for changes in consumer spending patterns. The market basket in each year includes **4** textbooks and **2** cups of coffee. The prices are a follows:

Year	Price of Textbooks	Price of Coffee
2000	$1	$2
2001	$2	$3
2002	$3	$4

Show work here

Step One: Calculate the cost of living (market basket) in each year
Step Two: (Market Basket of Current Year ÷ Market Basket of Base Year) x 100

14. **NOTE: THIS PROBLEM IS NOT IN THE NOTES AND WILL BE REVIEWED IN CLASS.** Assuming the following changes in the percentages of spending patterns and cost for families, calculate the inflation rate for 2013?

2010Yearly Costs:	Food $8,000	Housing $20,000	Other $16,000
2010 Percentages of Yearly Costs:	Food (18%)	Housing (45%)	Other (36%)
2013 Yearly Costs:	Food $10,000	Housing $22,000	Other $20,000
2013 Percentages of Yearly Costs:	Food (19%)	Housing (42%)	Other (38%)

Show work here

15. Using the example in the notes as an aid, compute the Real GDP Growth Rate based on the following info:
SHOW ALL FORMULAS AND WORK
2005 GDP = $12.2 Trillion
2008 GDP = $14.0 Trillion
2005 CPI = 195
2008 CPI = 215

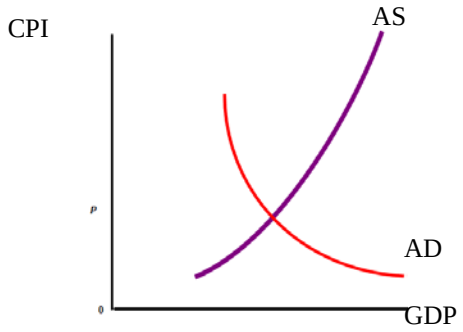
Show work here

16. Which of the following would **NOT** be counted in GDP?
CIRCLE EACH THAT APPLY (can be more than one answer)
    a. A painting from the Renaissance period
    b. The sale of a new Ford Ranger
    c. All the money spent on replacing a factory roof
    d. A birdhouse sold at a flea market
    e. Social Security money that your grandmother spends on a new good
    f. Money that a company invested in a new factory

UNIT 10: ECONOMIC HEALTH INDICATORS: GDP AND CPI NOTES

1.) Macroeconomic Topics

Remember topics that have to do with national or international affairs are considered to be **MACROECONOMIC** concepts. We look at aggregates (or totals) such as aggregate output (GDP), aggregate demand, aggregate supply, and the price level of all things in an economy.



2.) Gross Domestic Product (GDP) "economic heartbeat of a nation". A dollar amount measurement of things produced within a country's boarders during a specific time period.

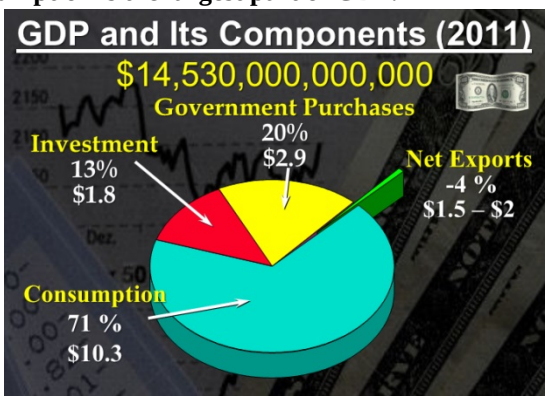
3.) What is the formula for GDP?

- Adds up all the spending on **NEW** goods in an economy
- There are **4** types of spending: **consumption, investment, government purchases, net exports**
  Formula: C + I + G + NX

- **Consumption (C):** consumption by households of nondurable goods (cereal, soap, paper) and durable goods (TV, cars, furniture)
- **Investment (I):** ONLY counts investment on **NEW** goods (such as new buildings, new equipment, new additions to inventory)
  - SINCE GDP SEEKS TO MEASURE GROWTH IT WOULD NOT MAKE SENSE TO COUNT MONEY SPENT ON REPLACING OLD CAPITAL. YOU MUST SUBTRACT MONEY SPENT ON REPLACING DEPRECIATED CAPITAL (SUCH AS A REPAIR ON A ROOF OR REPLACING A COMPANY TRUCK)
- **Government purchases (G):** money spent on services BUT not Social Security or Welfare (these are known as transfer payments to those less fortunate people. These people will in turn spend the money on goods so it will be counted only once as consumption)
  - THINK ABOUT IT! THIS MONEY WILL BE COUNTED IN CONSUMPTION. WE DO NOT WANT TO COUNT MONEY TWICE IN THE FORMULA!!!
- **Net Exports (NX) or (Exports -Imports):** Foreigners buying our goods should be a part of GDP, while money we spend on foreign goods is not a part of GDP. So net exports equals: exports – imports. Notice what would happen if we had more imports than exports (this would hurt our GDP!!!)

NOTE: All the variables in the GDP formula have been positive in the last few years **EXCEPT** Net Exports. It is negative because we **are importing more than we are exporting.**

Consumption is the largest part of GDP.



Notice Net Export is negative (we import MORE than we export)

4.) What is NOT figured in GDP?

- No US goods produced in other countries
- Household production (stuff made at home)
- Does not count transfer payments from the government (Social Security and Welfare)
- Does not count the old goods (they have already been counted in the year they were produced and sold)
- Depreciation of old goods (does not calculate losses due to goods becoming old and worn down)
- **No double counting of goods:** such as used goods and intermediate goods (goods used in production process) Example below:

Example of the correct way to count a good into GDP:

A wooden desk sold to you for $200. You would figure **$200** into the GDP.

Example of the wrong way to count a good into GDP (Double Counting):

Timber sold to a mill:	**$20**
After it was milled it was sold to manufacture:	**$50**
Manufacture built the desk and sold to a retailer:	**$120**
Retailer marks it up and sells it to you:	**$200**

If all transactions were added up then total GDP would be: **$390** This would inflate GDP (just remember to **ONLY** count the **market price** and **NOT** each of the costs of production)

5.) What is the difference between NOMINAL GDP and REAL GDP?

- REAL GDP is ADJUSTED for INFLATION
- NOMINAL GDP in NOT ADJUSTED for INFLATION
- We must adjust for inflation to see if real growth has occurred (see example below)

EXAMPLE: Inflation is not factored into GDP:
Why is that a bad thing?

Let's say there is a **4% increase** in GDP between 2000 and 2003. **This appears good, but what is inflation?** Based on the CPI, inflation has **increased 4%** as well. **Bummer!** Then this means that our county's production did not grow at all.

HOW TO FIGURE THE REAL GROWTH RATE?
(GDP Growth Rate % - Inflation Rate % = Real Growth Rate %)

6.) Consumer Price Index ***(a tool to figure inflation)***

- Because inflation exists, GDP is often discussed as **REAL GDP** (simply means it takes into account inflation). *NOTE: **NOMINAL GDP** does **NOT** take into account inflation. Know the difference between nominal and real GDP*
- A base year is used, and the **Consumer Price Index** (called the GDP deflator or CPI) is used to measure all future GDP in terms of the base year prices. Ideally, using base year prices will eliminate any distortions caused by price changes and allow real GDP to accurately reflect changes in the nation's economy and many other consumer products.

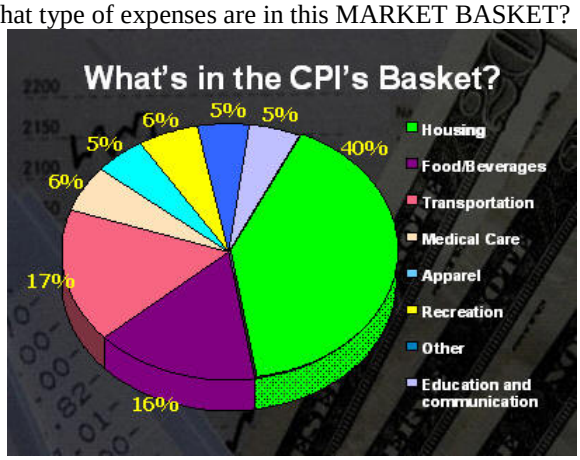
$$\frac{\text{Market Basket Value in current year}}{\text{Market Basket Value in past year}} \times 100 = \text{CPI (Index Value)}$$

- The CPI takes a hypothetical **market basket** of goods and services purchased by a typical household (such as milk, paperback books, furniture and numerous consumer goods). It then tracks changes in the amount of money required to purchase this same basket of goods and services year after year.
- The CPI is always figured with a base year. (Example: we would chose 2001 as the base year if we wanted to measure the inflation rate from 2001 to 2006)

KNOW THIS EXAMPLE:
In 2001, the national NOMINAL GDP was $2,000,000,000.
In 2006, the national NOMINAL GDP increased to $2,500,000,000.
The Consumer Price Index has increased from 110 in 2001 to 134 in 2006.
What is the REAL GDP (what real growth took place)?

Answer: The percent change in NOMINAL GDP is **25%** ((2.5 - 2.0) /2,000,000,000) x 100) = 25%
The percent change in CPI is **22%** ((134 - 110) /110) x 100) = 22%
So the REAL GDP = **3%** (25% - 22%).
Real growth was 3% between 2001 to 2006, NOT 25%!!

What type of expenses are in this MARKET BASKET?



7.) What are leading and coincident indicators?
These indicators measure **what is going to happen in the future (leading) or…….is happening in the economy right now (coincident)**. They include:

1. **Personal Income Levels**
2. **Employment Rates** (measured through surveys)
3. **Industrial production** (can be measured by looking at GDP)
4. **Inflation Rate** (can be measured by looking at the CPI)