

**ARE 201**  
**Fall 2009**  
**Lab #1**

Name KEY

Work the problems and show all your calculations. Use the attached table if necessary. **Give answers to the nearest dollar, except #1 - give dollars and cents.**

1. Calculate the *real* value in 2009 (in 2009 purchasing power dollars) of a per gallon gas price in 1996 of \$1.00.

$$\mathbf{\$1.00 \times \frac{216.0}{156.9} = \$1.38}$$

2. Calculate the *real* value in 2009 (in 2009 purchasing power dollars) of a salary of \$25,000 in 1990.

$$\mathbf{\$25,000 \times \frac{216.0}{130.7} = \$41,316}$$

3. The average airline ticket cost \$350 in 1987, and in 2009 the average airline ticket cost \$450. In which year was the *real* cost of an airline ticket (in 2009 purchasing power dollars ) higher? Show how you arrived at your answer.

$$\mathbf{1987 \text{ ticket price in 2009 } \$: \$350 \times \frac{216.0}{113.6} = \$665}$$

**Since \$665 is higher than \$450, ticket cost is higher in 1987.**

4. The owner of the "Mr. Pizza" restaurants earned profits of \$100,000 in 1992, and he earned profits of \$150,000 in 2009. Express both profits in 2009 purchasing power dollars (2009 "real" dollars).

$$\text{1992 profits in 2009 \$: } \$100,000 \times \frac{216.0}{140.3} = \$153,956$$

**2009 profits: \$150,000**

5. The Cincinnati Reds' (a major league baseball team) team player salary in 1986 was \$35 million. Its player salary in 2009 was \$70 million. Express both salary totals in *real* 2009 dollars and then indicate in which year was the Reds' team salary higher. (give answer in closest million \$)

$$\text{1986 salary in 2009 \$: } \$35 \text{ million} \times \frac{216.0}{109.6} = \$69 \text{ million}$$

**2009 salary: \$70 million**

**Salary is higher in 2009.**

6. Jack earned \$40,000 from his job in 1999, and he earned \$45,000 from the same job in 2004. In which year was his "real" salary (in 2009 purchasing power dollars) higher? Show how you arrived at your answer.

$$\text{1999 salary in 2009 \$: } \$40,000 \times \frac{216.0}{166.6} = \$51,861$$

$$\text{2004 salary in 2009 \$: } \$45,000 \times \frac{216.0}{188.9} = \$51,456$$

**Higher in 1999.**

### Consumer Price Index (CPI) Values

1985	107.6
1986	109.6
1987	113.6
1988	118.3
1989	124.0
1990	130.7
1991	136.2
1992	140.3
1993	144.5
1994	148.2
1995	152.4
1996	156.9
1997	160.5
1998	163.0
1999	166.6
2000	172.2
2001	177.1
2002	179.9
2003	184.0
2004	188.9
2005	195.3
2006	201.6
2007	208.4
2008	210.5
2009	216.0