

Econ 102  
 January 26, 2007  
 Quiz 1B

In Hen Arbor, the following goods were included in the consumption basket in the amounts shown as  $Q_{\text{basket}}$ . In years 2004-2006, they were produced and consumed at the prices and quantities indicated:

Good	$Q_{\text{basket}}$	$Q_{2004}$	$P_{2004}$	$Q_{2005}$	$P_{2005}$	$Q_{2006}$	$P_{2006}$
Mittens	20	20,000	3	22,000	2	25,000	2
Brooms	8	10,000	4	8,000	5	3,000	6
Freezers	2	2,000	15	3,000	18	4,000	20

1) Using 2006 as the base year, what is the inflation rate for 2006 (i.e., between 2006 and 2005) according to the CPI?

*Make the CPI for 2006 equal to 100 because 2006 is the base year. In 2006, the basket of goods cost  $20 \cdot 2 + 8 \cdot 6 + 2 \cdot 20 = \$128$ .*

*At 2005 prices, the basket costs  $20 \cdot 2 + 8 \cdot 5 + 2 \cdot 18 = \$116$ . Therefore the CPI for 2005 is  $(116/128) \cdot 100 = 90.625$*

*Now you can calculate inflation as  $(100 - 90.625) / 90.625 \cdot 100 = 10.34\%$*

2) Using 2005 as the base year, calculate the percent change in real GDP from 2005 to 2006.

*Nominal GDP for 2005 is  $44,000 + 40,000 + 54,000 = \$138,000$*

*Nominal GDP for 2006 is  $50,000 + 18,000 + 80,000 = \$148,000$*

*Real GDP for 2006 is  $50,000 + 15,000 + 72,000 = \$137,00$*

*Since 2005 is the base year, nominal=real for 2005.*

*Percent change in real GDP is then  $(137 - 138) / 138 \cdot 100 = -0.725 \%$*