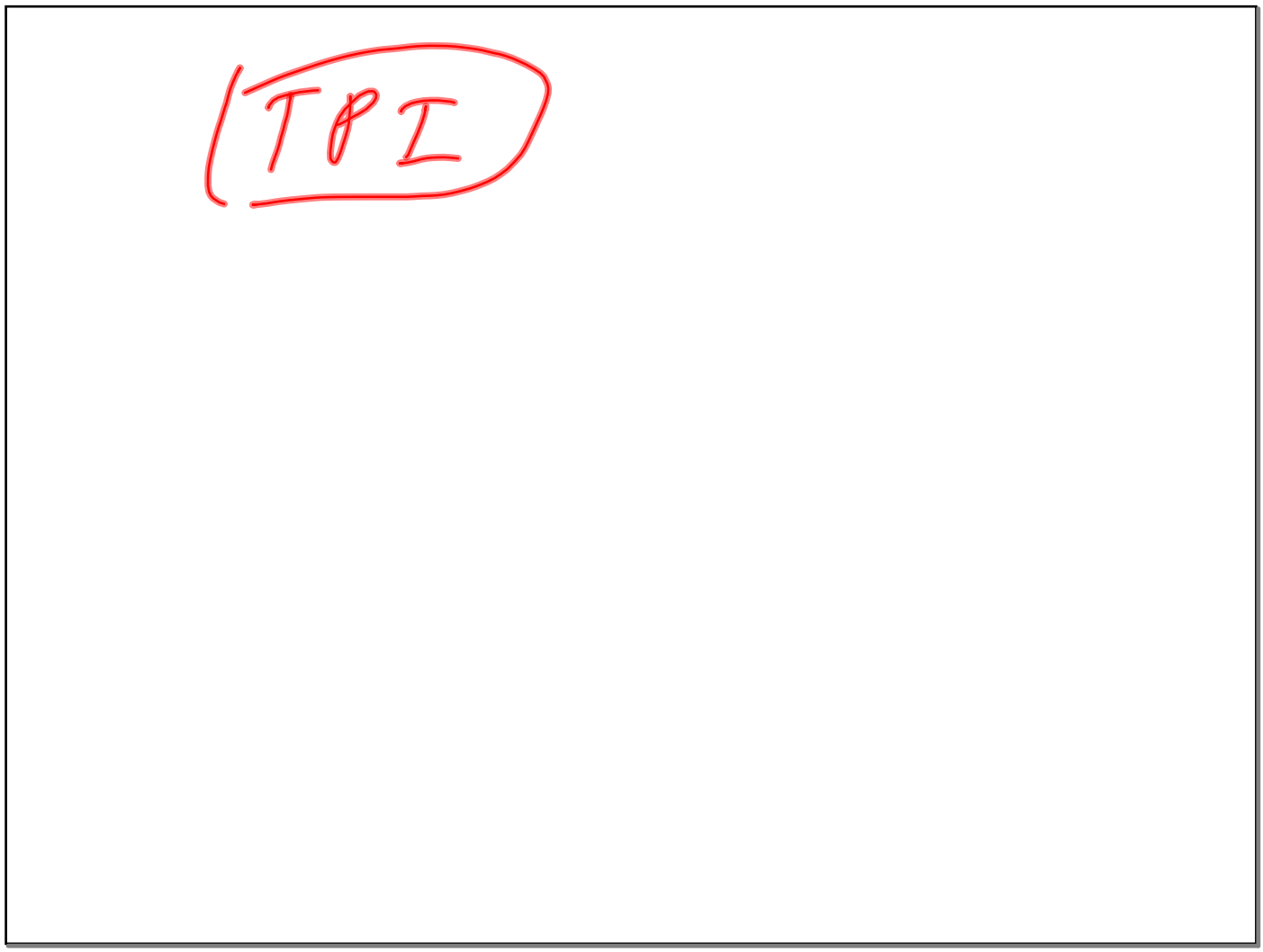
CPI = Consumer Price Index

How the price of a "basket" of goods has changed over time.

The CPI is released by the federal government.


TPI

CPI is the primary index used to report inflation.

Inflation is the increase in prices of items over time

another way to put it is

Inflation is the decreasing value of money over time.

CPI is used for:

1. Cost of Living Adjustments (COLA) for Social Security recipients.
2. Many business contracts allow price increases based on CPI
3. Many Salary increases for jobs are based on CPI.

Limitations of the CPI:

① Only includes 211 categories. There are a lot of products in the US.

② Reflects price increases for a "typical" US household.

CPI

2010 = 216

2000 = 174

An item costs $3.00 in 2000. What does it cost in 2010?

Like is to like

$$\frac{\$3.00}{\$X} = \frac{174}{216}$$

$$3 \cdot 216 = 174x$$

$$\frac{648}{174} = \frac{174x}{174}$$

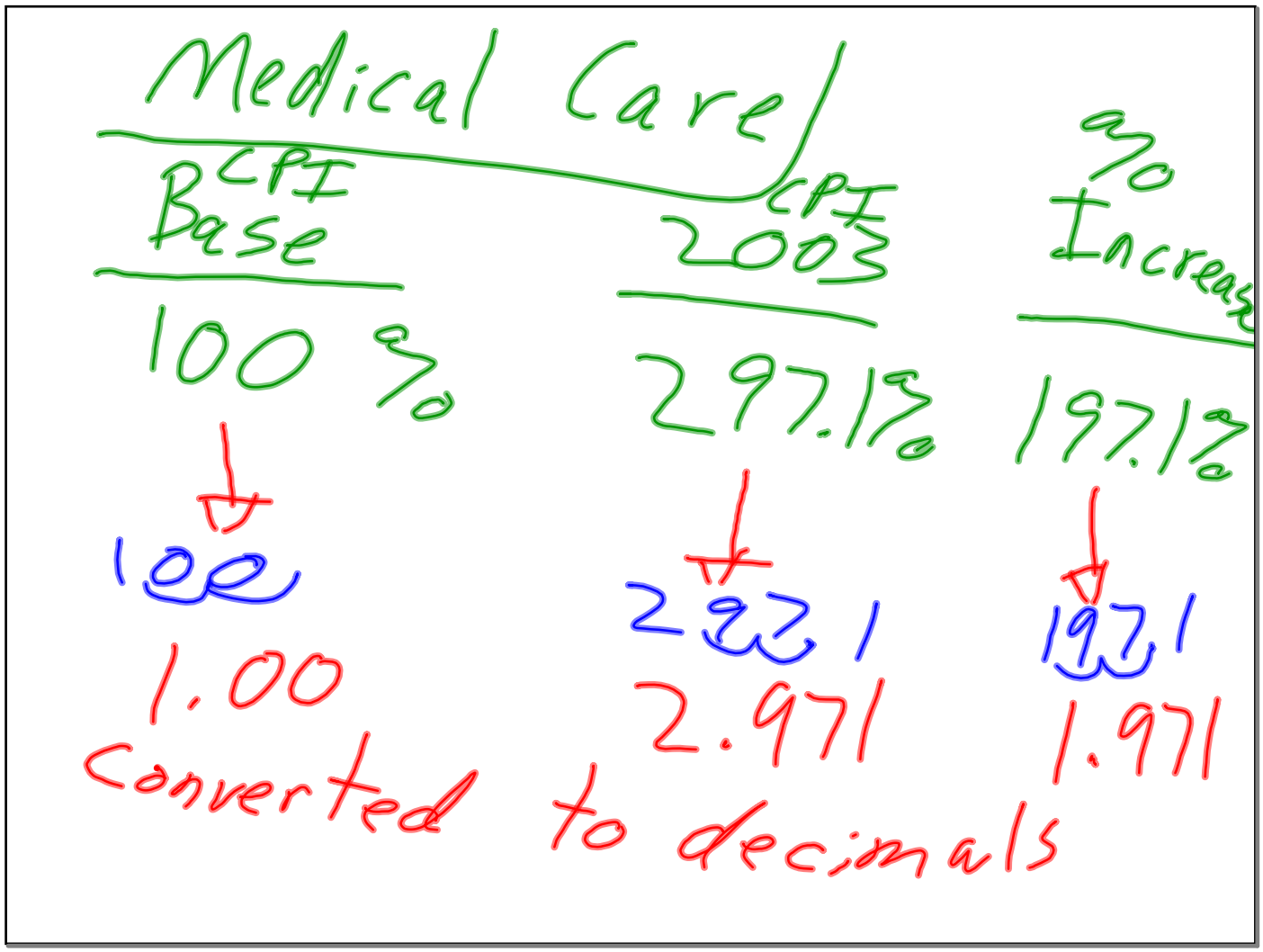
$X = \$3.72$ in 2010

What is the % change from 2000 to 2010?

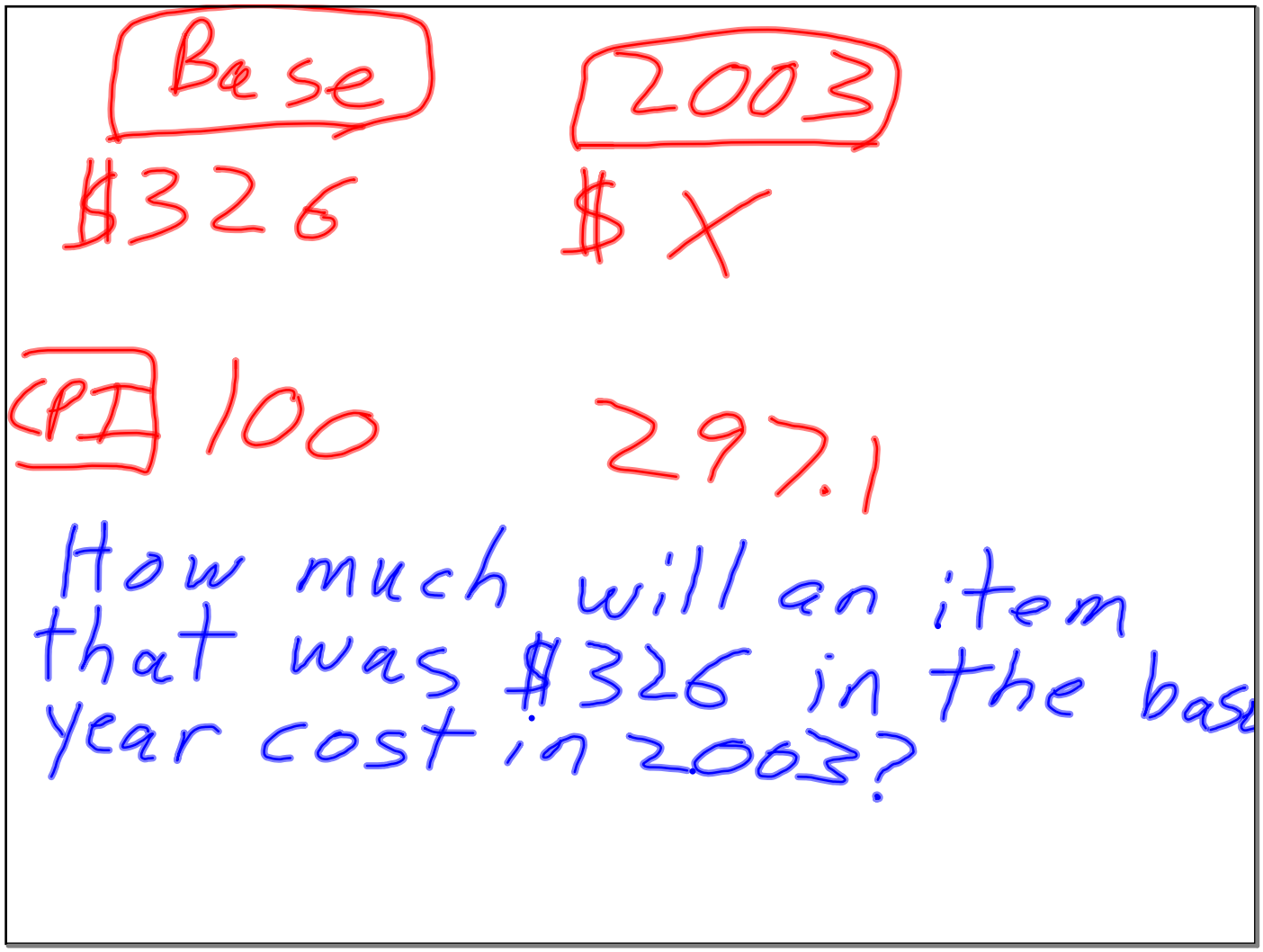
$$\frac{216-174}{174} = 24.1\%$$

What is the % change from 2010 to 2000?

$$\frac{174-216}{216} = -19.4\%$$


Medical Care
CPI Base
100 %
100
1.00
CPI 2003
297.1%
2971
2.971
% Increase
197.1%
1971
1.971
converted to decimals

Base year: index = 100


Base
2003
$326
$X
CPI
100
297.1
How much will an item that was $326 in the base year cost in 2003?

$$\frac{\$326}{\$X} = \frac{100}{297.1}$$

$$326(297.1) = 100x$$

$$\frac{96855}{100} = \frac{100x}{100}$$

$\$968.55$ in 2003

Buy a car for $12,000 when the CPI is 176. How much did it cost in the base year?

$$\frac{\$12000}{\$X} = \frac{176}{100}$$

6818.18

Buy $237,000 house in 2002 when the CPI was 138. How much did it cost in 2006 when the CPI was 212?

$$\frac{237000}{x} = \frac{138}{212}$$

364,086.96

Buy a Nano for $80 when the CPI is 112. What is the CPI 3 years earlier if the Nano $40?

$$\frac{\$80}{\$40} = \frac{112}{x}$$

CPI = 56

2000 CPI is 132

2005 CPI is 175

175 - 132 = 43

The CPI in year 1 is 117. The CPI is 132 in Year 2.

What is the percent change from Yr 1 to Yr 2.

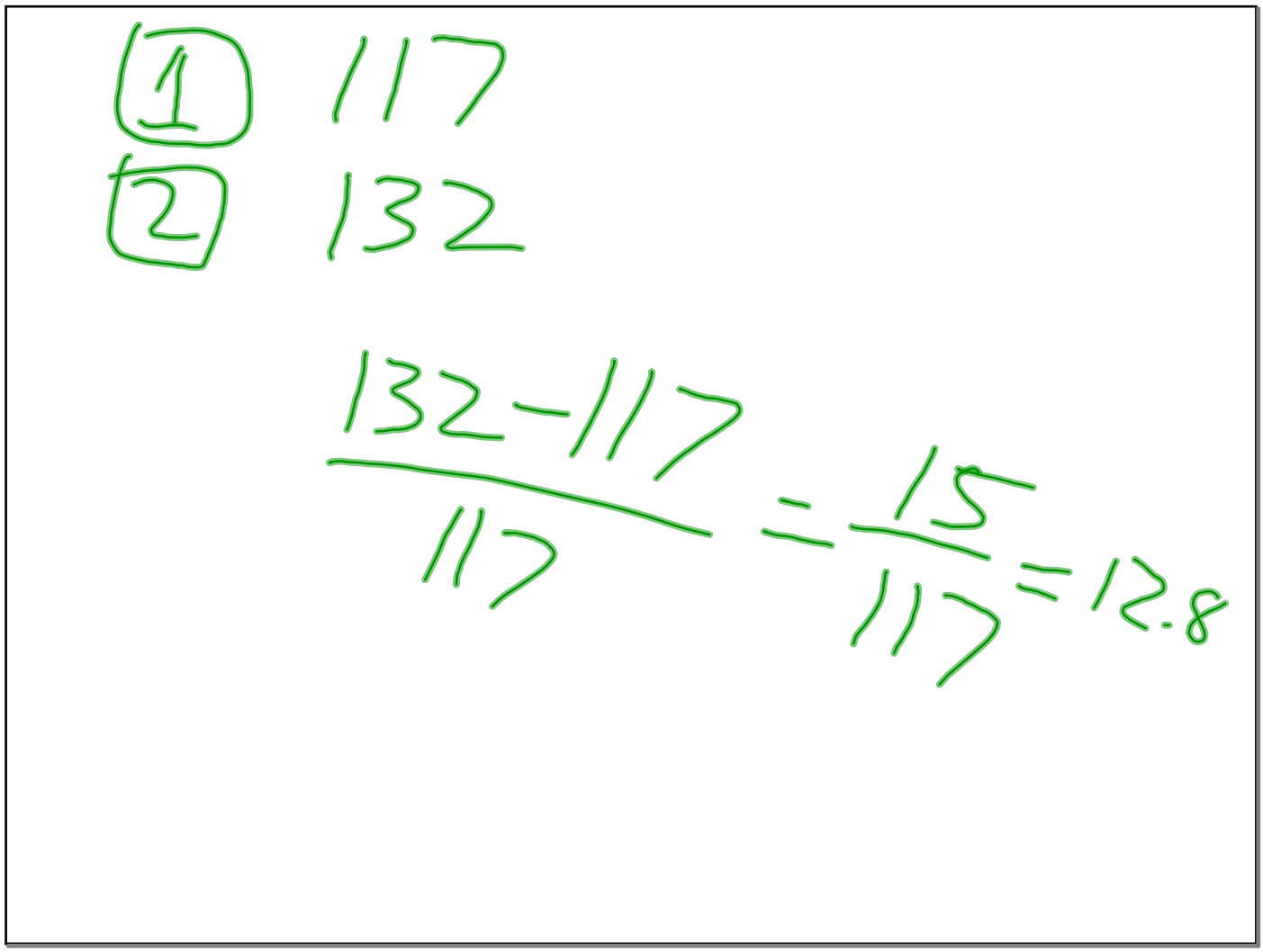
$$\frac{\text{new} - \text{old}}{\text{old}} = \frac{132 - 117}{117} = 12.8\%$$

CPI

Dec 2002	180.9
Dec 2003	184.3

$$\%\ \text{change} = \frac{\text{new} - \text{old}}{\text{old}}$$

$$\frac{184.3 - 180.9}{180.9} = 1.9\%$$


1 117
2 132
132-117 / 117 = 15 / 117 = 12.8

.1% = 0.001

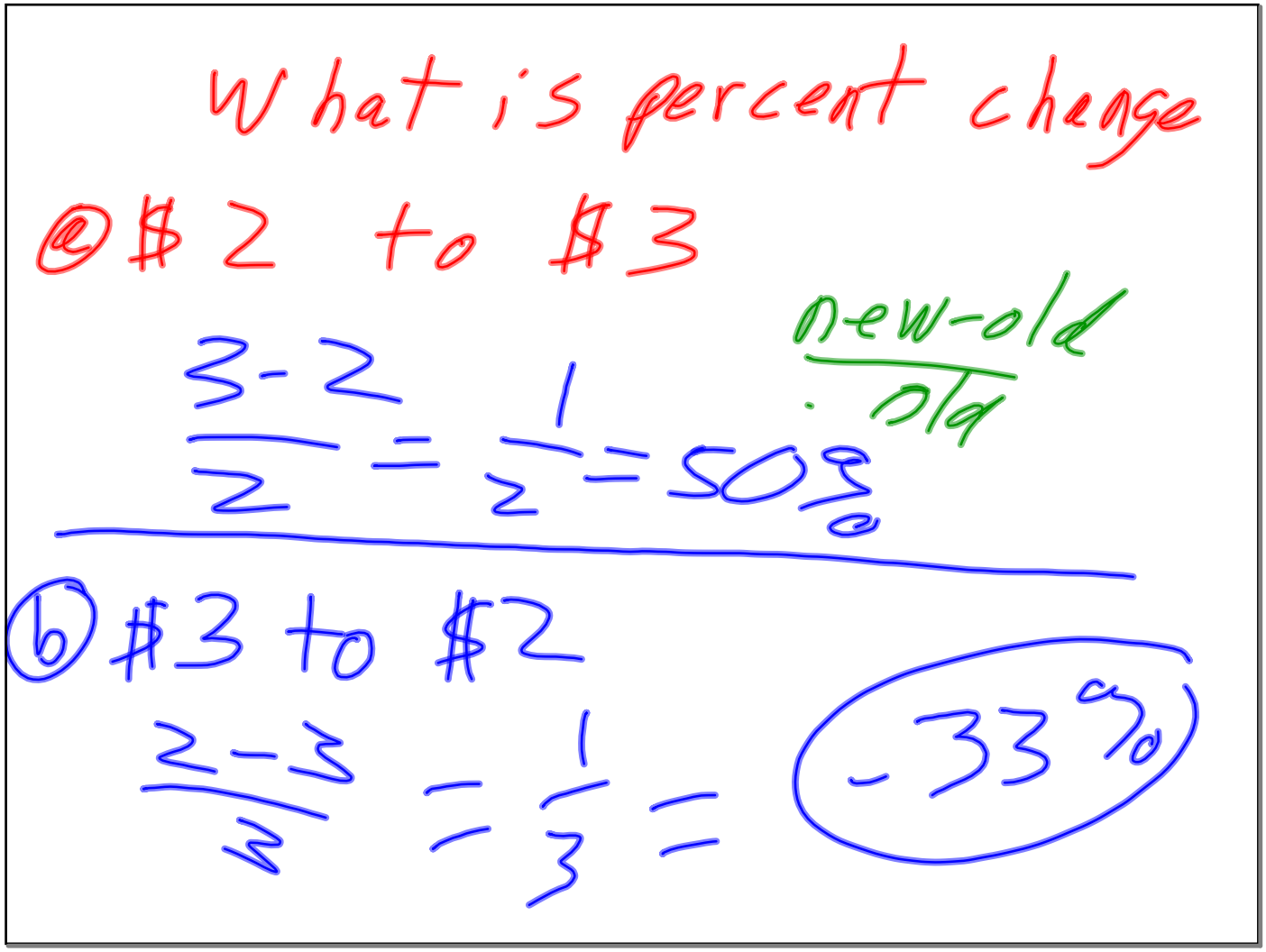
w.1% = 0.001

The CPI was 247 in 2003. It was 165 in 1996. What was the percent change
(a) from 1996 to 2003?
(b) from 2003 to 1996?

$$\frac{new - old}{old}$$

(a) $\frac{247 - 165}{165} = .497 = 49.7\%$

(b) $\frac{165 - 247}{247} = -33.1\%$


What is percent change
@ $2 to $3
new-old / old
3-2 / 2 = 1/2 = 50%
b $3 to $2
2-3 / 3 = -1/3 = -33%

The CPI was 247 in 2003. It was 165 in 1996. What was the percent change from 2003 to 1996?

$$\frac{165-247}{247} = 33.2\% \text{ decrease}$$

The price of an item went from $1.00 to $1.50. What is the percent increase?

$$\frac{1.50-1.00}{1.00}=\frac{.50}{1.00}=50\%$$

The price of an item decreased from $1.50 to $1.00. What is the percent decrease?

$$\frac{1.00-1.50}{1.50} = \frac{-.50}{1.50} = -33.\overline{3}\%$$

decrease