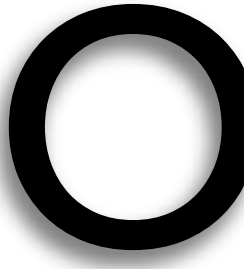
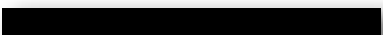
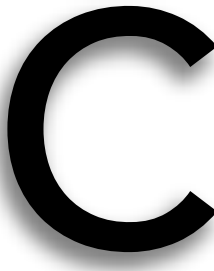
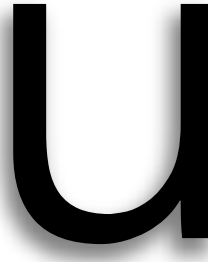
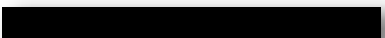
Year	Price X	Quantity X	Price Y	Quantity Y	Price Z	Quantity Z	Nominal GDP
1	1	100	0.5	50	0.6	10	(1x100)+(0.5x50)+(0.6x10)= 131
2	2	100	1	50	1.2	10	(2x100)+(1x50)+(1.2x10)= 262
3	4	100	2	50	2.4	10	(4x100)+(2x50)+(2.4x10)= 524
4	8	100	4	50	4.8	10	(8x100)+(4x50)+(4.8x10)= 1,048

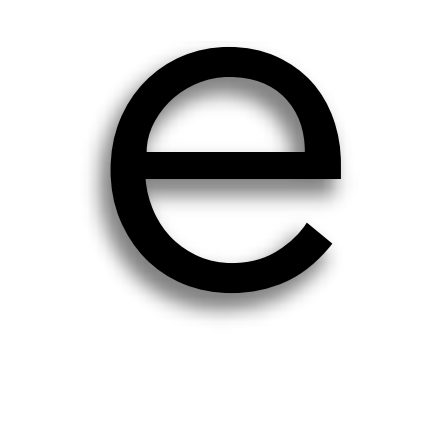


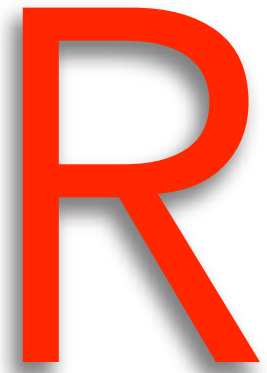


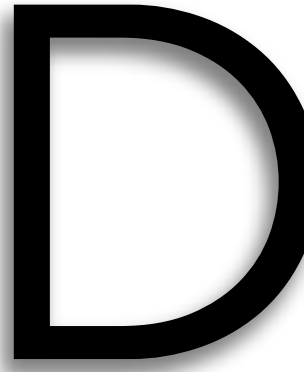


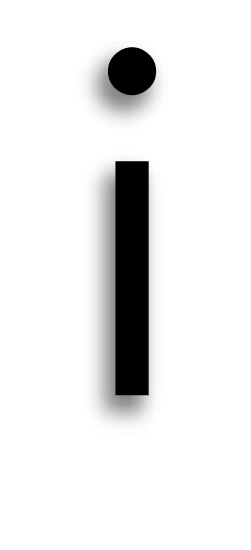


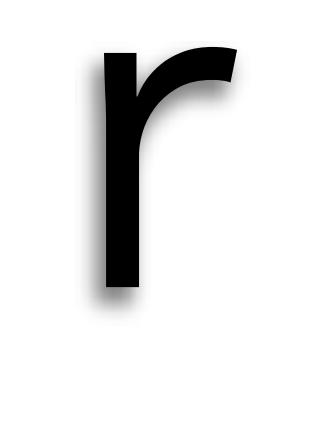


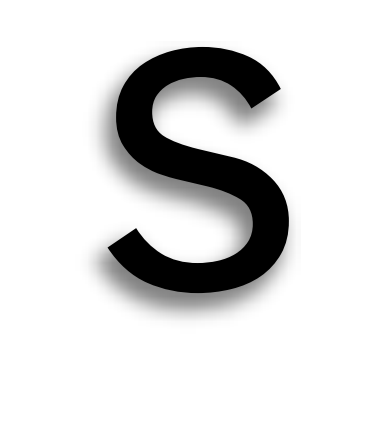


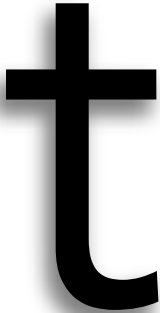


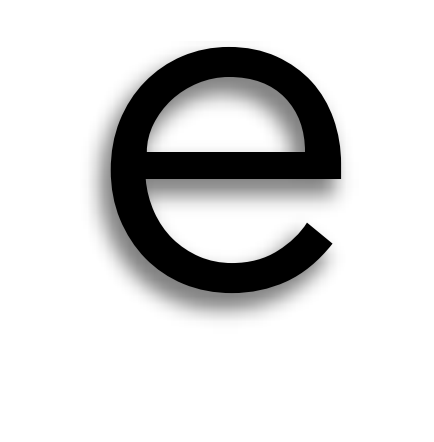


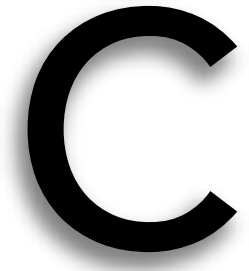


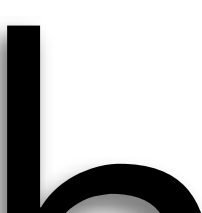


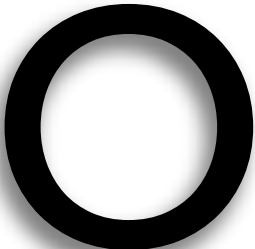


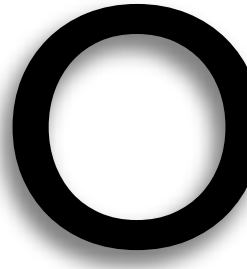


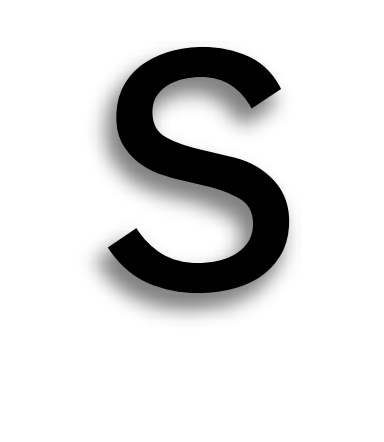


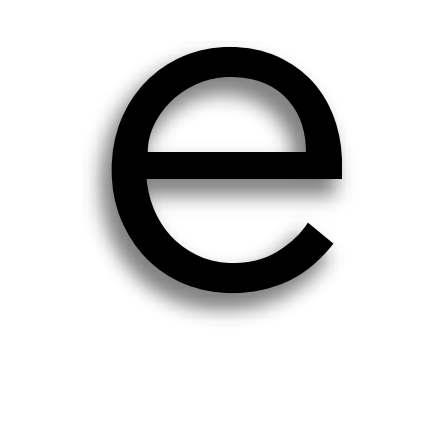


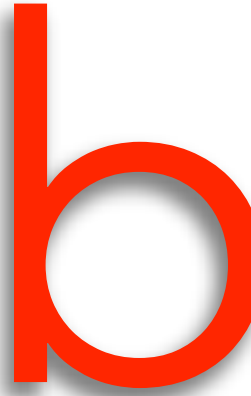


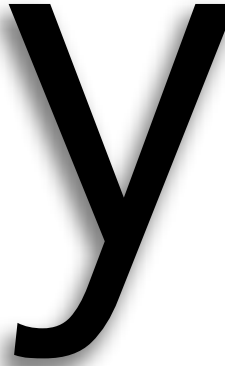


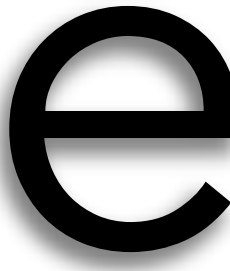




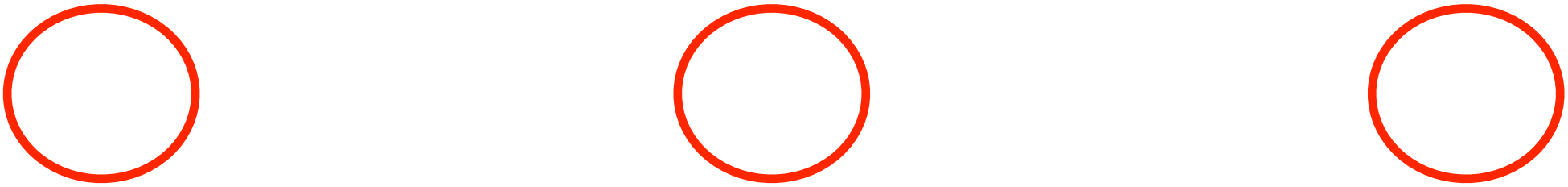








1 0.5 0.6



1 0.5 0.6

1 0.5 0.6

$$\text{Real GDP} = P_{x\,base}Q_x + P_{y\,base}Q_y + P_{z\,base}Q_z$$

Real GDP

(1x100)+(0.5x50)+(0.6x10)= 131
(1x100)+(0.5x50)+(0.6x10)= 131
(1x100)+(0.5x50)+(0.6x10)= 131
(1x100)+(0.5x50)+(0.6x10)= 131

Choosing Year 1 as the base means that we will pretend that prices did not change from what they were in year 1

The choice of base year is arbitrary. In this example we'll use Year 1 as the base

Quantities produced are the same

Real GDP correctly shows that production is the same

Nominal GDP tells us that production increased!

To calculate Real GDP first we choose a "base" year

Choosing Year 1 as the base means that we will pretend that prices did not change from what they were in year 1

$$\text{Real GDP} = P_{x\ base}Q_x + P_{y\ base}Q_y + P_{z\ base}Q_z$$

Year	Price X	Quantity X	Price Y	Quantity Y	Price Z	Quantity Z	Real GDP	
1	1	100	0.5	50	0.6	10	(1x100)+(0.5x50)+(0.6x10)=	131
2	1	100	0.5	50	0.6	10	(1x100)+(0.5x50)+(0.6x10)=	131
3	1	100	0.5	50	0.6	10	(1x100)+(0.5x50)+(0.6x10)=	131
4	1	100	0.5	50	0.6	10	(1x100)+(0.5x50)+(0.6x10)=	131

Quantities produced are the same

Real GDP correctly shows that production is the same

Comparing Real and Nominal GDP