CONCEPT: GROWTH RATES AND THE RULE OF 70

- There are several important calculations related to the economic growth; notably the growth in _____
  - □ Calculating the rate of growth from year-to-year is a simple _____ calculation:

$$Annual\ Growth\ Rate = \frac{GDP_{Current} - GDP_{Prior}}{GDP_{Prior}}$$

  - □ We can calculate ***average annual growth*** by taking a simple arithmetic average:

$$Average\ Annual\ Growth\ Rate = \frac{Growth\ Rate_1 + Growth\ Rate_2 + \cdots + Growth\ Rate_n}{n}$$

  - □ ***Rule of 70*** – a mathematical approximation of how long it will take a value to _____

$$Number\ of\ years\ to\ double = \frac{70}{Growth\ Rate}$$

EXAMPLE: Use the *Rule of 70* to analyze the following growth rates:

2%:	**4%:**	**6%:**
_____ differences in growth rates can have _____ impacts on the standard of living in a country.		

EXAMPLE: The country of Growtopia had real GDP in the previous year of $1.45 billion. The current year real GDP was $1.51 billion. Based on this information, approximately how long would it take for Growtopia's real GDP to double if it continues to grow at a constant rate?

a) 6 years
b) 12 years
c) 16 years
d) 17 years

PRACTICE: Use the information in the table to calculate Growtopia's average annual growth rate for real GDP and the approximate amount of time it would take for Growtopia's real GDP to double.

a) Average Growth: 2.4% Time to Double: 29.2 years
b) Average Growth: 3.8% Time to Double: 18.4 years
c) Average Growth: 5.2% Time to Double: 13.5 years
d) Average Growth: 7.6% Time to Double: 9.2 years

Year	Real GDP Growth Rate
2015	1.8%
2016	2.1%
2017	6.1%
2018	5.2%