

Name: _____ Date: _____

1. When one quantity, or variable, depends on another, the latter is referred to as the dependent variable.
A) True
B) False

2. The percentage _____ in a function is the percentage increase in the function from one value of the independent variable to another.
A) rise
B) decline
C) relation
D) change

3. _____ is the process of estimating unknown values beyond known data points using the average growth rate.
A) Relation change
B) Interpolation
C) Extrapolation
D) Absolute change

4. The following table shows the world population (in billions) on the given date:

Date	1950	1960	1970	1980	1990	2000
Population	2.56	3.04	3.71	4.45	5.26	6.08

What is the percent change from 1960 to 1970?

- A) 6.7%
- B) 19%
- C) 22%
- D) 25%

5. The following table shows the world population (in billions) on the given date:

Date	1950	1960	1970	1980	1990	2000
Population	2.56	3.04	3.71	4.45	5.26	6.08

Use extrapolation to estimate the world population in 2003.

- A) 6.24 billion
 B) 6.33 billion
 C) 6.41 billion
 D) 6.50 billion
6. The following table from the World Health Organization shows the cumulative number of Severe Acute Respiratory Syndrome (SARS) cases reported on certain dates in March and April 2003:

Date	March 26	March 31	April 5	April 10	April 15
Number of cases	1323	1622	2416	2781	3235

Calculate the average growth rate of cases from March 31 to April 5.

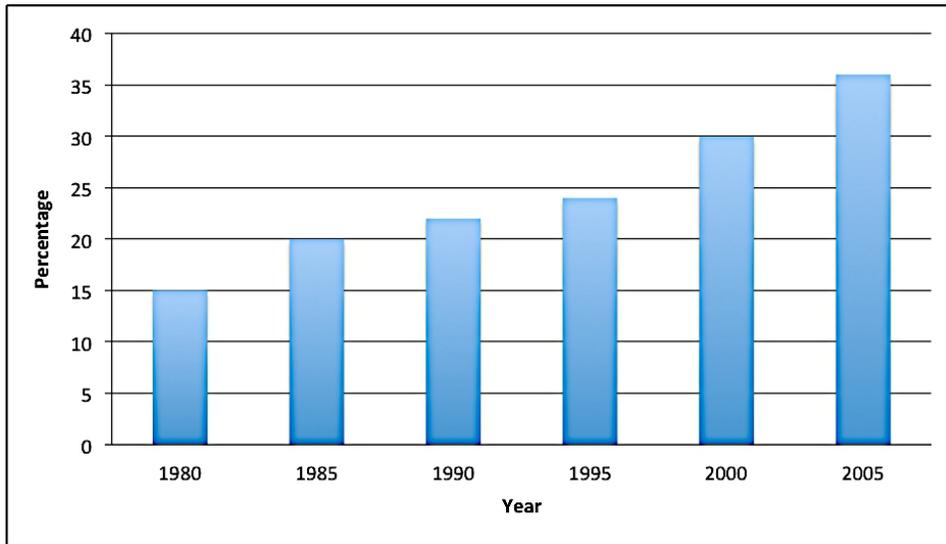
- A) 794.0 new cases per day
 B) 158.8 new cases per day
 C) 132.3 new cases per day
 D) 198.5 new cases per day
7. Interpolation and extrapolation are most reliable over long intervals.
 A) True
 B) False
8. The following table shows the number of customer complaints against a U.S. car rental company during the given year:

Date	2002	2004	2006	2008	2010
Number of complaints	1123	1304	1487	1398	1651

Use interpolation to determine the number of complains in 2009.

- A) 1016
 B) 1651
 C) 1482
 D) 1525

9. The bar graph below shows the percentage of college freshman at ABC College needing to take a remedial math class as of the fall of the given year:



If the average yearly growth rate in the percentage from 2000 to 2005 is 1.2%, estimate the percentage in 2008.

- A) 36.7%
B) 40.8%
C) 38.4%
D) 39.6%
10. The amount of tax you owe is a function of your taxable income, with taxable income being the:
A) dependent variable
B) independent variable
C) percent change
D) interpolation
11. A study at ABC College found that 54.8% of its students owned a laptop computer in 2005. Another study found that 65.3% of its students owned a laptop computer in 2008. Use these figures to estimate the percentage in 2007.
A) 65.3%
B) 61.8%
C) 60.1%
D) 68.8%
12. The population of the United States in 1890 was 62.98 million. If the population rose to 76.21 million by 1900, calculate the average growth rate and explain what it means.