**NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**ALGEBRA**

**PERCENT OF CHANGE**

**&**

**GREATEST POSSIBLE ERROR**

**PROBLEMS**

**Find the percent of change. Round answers to the nearest 10th of a percent, if necessary.**

1.  2.  3. 

4. In 1980, the average annual tuition charge for a four-year \_\_\_\_\_\_\_\_\_\_\_\_

 public university was $840.The average annual tuition charge

 in 2000 was $3356.What is the percent of change?

5.In 1980,Texas had 27 U.S. Representatives. That number \_\_\_\_\_\_\_\_\_\_\_\_

 increased to 30 in 2000. Find the percent of change.

6. The United States imported 6,909,000 barrels of oil per day in \_\_\_\_\_\_\_\_\_\_\_\_

 1980. In 2000, the United States imported 11,459,000 barrels

 of oil per day. What is the percent of change?

7. In 1990, Atlanta, GA, failed to meet air quality standards on 42 days. \_\_\_\_\_\_\_\_\_\_\_\_

In 1999, Atlanta failed to meet air quality standards on 61 days.What is

the percent of change?

**Find the greatest possible error and the percent error in the measurement.**

8. 1 inch **GPE: \_\_\_\_\_\_\_\_ %Error: \_\_\_\_\_\_\_\_\_**

9. 0.3 km **GPE: \_\_\_\_\_\_\_\_ %Error: \_\_\_\_\_\_\_\_\_**

10. 2.7 ft **GPE: \_\_\_\_\_\_\_\_ %Error: \_\_\_\_\_\_\_\_\_**

***Retail Markup***

Your favorite clothing store purchases items from various manufacturers. The store then turns around and sells the items to you, the consumer. The difference between the price the store pays for merchandise, called the cost, and the price the store sells the item to you, called the selling price, is the markup.

Markup is usually figured as a percent of either the cost of the item or the

selling price of the item.

Markup can be found using the formula: **Markup = Selling price – cost**

**Determine the selling price for each item.**

|  |  |  |  |
| --- | --- | --- | --- |
| **ITEM** | **COST** | **MARKUP** | **SELLING PRICE** |
| **11.** Pair of pants | $18.97 | 100% | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **12.** Sweater | $17.43 | 90% | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **13.** Pair of shoes | $39.43 | 100% | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **14.** Belt | $6.90 | 123% | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **15.** Shirt | $10.45 | 70% | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **16.** Hat | $9.37 | 34% | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

**17.** What is the cost of a pair of shorts with a selling price of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 $28.99 and a markup rate of 70% based on the selling price?

**18.** What is the markup rate based on the cost of a sweater that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 sells for $52.49 and costs $38.89?