

## **Pre 0.2            Benchmarks and Reasonable Values**

### **I.     Investigate the use of approximate and exact numbers in newspaper articles.**

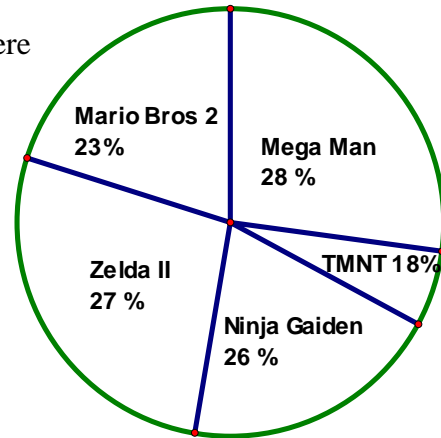
Get a copy of the front page of a newspaper. Use a marker to circle numbers used in headlines and articles. Then study the numbers. Decide if the numbers are exact or approximate values. For example, do the numbers below refer to exact or approximate values?

- U.S. population tops 220 million.
- Lottery winner earns over \$200,000 annually.
- Stocks fall 5.4 %

## II. Reasonable Values

1) Examine each news clipping below. Does it make sense? Why or why not?

NINTENDO HOTLINE: Five hundred players were asked to list their favorite games. The results are shown in this graph.



ADVERTISEMENT: Are you looking for a quality preschool? At Ready for School Academy, we maintain a 1:10 teacher-to-student ratio. Just look at the smiling faces in the photo of our three good teachers and our fifty happy students.

SPACE LAUNCH TO MARS: NASA says all systems are “go” for the Wednesday launching of spaceship ROCK I on its voyage to Mars. Traveling at 8000 miles per hour, the ship is expected to make the 34-million-mile trip in about four days.

INCOME TAX TIME: The IRS reports that the new income tax forms are easier than those used last year. In fact, most people are able to complete the forms by themselves. Twenty-Three percent of taxpayers are expected to turn in their income tax forms without professional assistance.

2) For extra credit, find examples in newspapers of “nonsense” news (the nonsense is in the numbers).

3) Find a newspaper story with numerical data. Blank out all numerical values. Trade your story with another group. Each group must fill in reasonable values.

**III. Estimate and then research the following:**

- 1) The population of the world. Estimate \_\_\_\_\_  
Research results:
  
- 2) Population of the United States. Estimate \_\_\_\_\_  
Research results:
  
- 3) Population of your city or town. Estimate \_\_\_\_\_  
Research results:
  
- 4) Population of your school. Estimate \_\_\_\_\_  
Research results:
  
- 5) United States government budget. Estimate \_\_\_\_\_  
Research results:
  
- 6) The number of 13-year-olds alive today. Estimate \_\_\_\_\_  
Research results:
  
- 7) The number of graduating high school seniors last year.  
Estimate \_\_\_\_\_  
Research results:
  
- 8) The number of tons of garbage generated every day in the U.S.  
Estimate \_\_\_\_\_  
Research results:

#### **IV. Are these statements accurate? Why or why not?**

- 1) Given: In one day Americans buy 50,000 new television sets.

If you spread the 50,000 television sets evenly along the road between New York City and Hollywood, they would be just over 300 feet apart—less than a minute's walk. Television addicts could easily walk from one TV to the next during commercials and never miss the show.

- 2) Given: In one day Americans driving on unpaved roads stir up 81,000 tons of dust.

That's enough dust to cover a football field—the Dust Bowl—to a depth of forty-eight feet.

- 3) Given: In one day trains in this country haul 4 million tons of material in 58,000 railroad cars.

That's equivalent in weight to picking up every person west of the Mississippi, except the Californians, and moving them back east. The 58,000 cars, made into one long train, would stretch 600 miles.