

# Homework 4

1. If a staff of 4ft casts a shadow 7ft in length, what is the height of a tower which casts a shadow of 198ft at the same time? <sup>1</sup>
2. A homeowner sells their house at a loss of 20%. If the selling price was \$60,000.00, what was the original price of the home?
3. There are approximately 7.5 billion people on the planet. Write this number in scientific notation.
4. Last year the Maryville College woods was determined to be home to 250 box turtles. If the box turtle population has increased by 5%, what is the current population?
5. Three people are working together on a class project. To complete the project, they need to purchase glitter, glue, and a blank T-Shirt. Glitter costs \$1.75 per container, glue is \$1.25 per bottle, and a blank T-Shirt costs \$6.00. How much must each student contribute to purchase the supplies?
6. Floor\*Mart offers two containers of orange juice. One is a 64oz container which costs \$5.25 and the other is a 32oz container which costs \$2.25. Which container of orange juice is the better buy?
7. If the speed limit on Alcoa Highway is 55 MPH, how long will it take to drive from Maryville to Knoxville (A distance of approximately 17 miles)?
8. People seem to enjoy speeding on highways, even though this greatly increases their risk of an accident. If we drove the distance in the previous question at 65 miles per hour, how long would the trip take? How much time did we save by risking our lives and the lives of others?
9. Gross domestic product is the value of goods and services produced by a country each year. In 2018, the gross domestic product of the United States was \$19 trillion, and the population of the United States was 327 million people. How much value did each person produce (assuming everyone produced the same amount)?
10. Given the population estimate of question 3, and the data in question 9, approximately what percent of the world's population lives in the United States?

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<sup>1</sup>Transcribed from: *The Progressive Higher Arithmetic* edited by Daniel Fish. 1878