

M316K – Foundations of Arithmetic
Spring 2009
Problem Set 8 – Due Friday, March 27

“He who can properly define and divide is to be considered a god.” – Plato



This week’s problem set is on division. Some of the problems aren’t strictly division problems; they’re problems that tie together the four operations we’ve explored in this chapter.

Remember, copying answers is strictly forbidden! I’ve noticed when grading your papers that some people have written identical explanations for certain problems. This is okay as long as everybody in the group plays a role in coming up with the explanation. If it’s a last-minute “let me copy your answers so I don’t bomb this homework” move, it’s not okay. Obviously I can’t enforce this rule; I am relying on you to do the right thing.

Have a safe and enjoyable Spring Break!

Section 3.4: 2, 5, 8, 13*, 19*, 24*, 30, 34, 37, 49, 50, 56.

In Problem 13, determine which person’s estimation technique is incorrect, and explain how you can tell it is incorrect without having to determine the actual answer.

On Problems 19 and 24, estimate the answer, and explain how you came up with your estimate. Then find the exact answer to the problem.

Bonus Problems

- B1.** In 2006, the movie *Little Miss Sunshine* featured an old Volkswagen van that the Hoover family had to push until it reached a speed of 20 miles per hour, at which point the family had to jump inside the van and start it. Two years later, in the 2008 Summer Olympics, Usain Bolt of Jamaica would cement his status as the fastest man alive, running 100 meters in 9.69 seconds. Based on this information, evaluate the plausibility of the movie’s claim that the Hoover family was able to push the VW microbus at a speed of 20 miles per hour.
- B2.** Write a humorous math problem whose solution requires the use of all four of the operations explored in Chapter 3. (The funnier, the better.) Then show how to solve the problem.