Quiz 2   Key
Math 1040-1
June 1, 2012

Directions: Show all work for full credit. Clearly indicate all answers. Simplify all mathematical expressions completely. Each questions is worth 15 points. Unless otherwise directed, give each decimal approximation rounded to at least three decimal places.

1. Use a stem-and-leaf plot to display the data that represent the scores of a biology class on a midterm exam:
   67 75 80 82 85 87 88 90 91 95
   (#17 from 2.2 with less data, and numbers are sorted)

6	7
7	5
8	0 2 5 7 8
9	0 1 5

2. Use a Pareto chart to display the data that represent how a 42-gallon barrel of crude oil is distributed: (#25 from 2.2)

Gasoline	43%
Kerosene-type jet fuel	9%
Distillate fuel oil (home heating, diesel fuel, etc.)	24%
Coke	5%
Residual fuel oil (industry, marine transportation, etc.)	4%
Liquefied refinery gases	3%
Other	12%
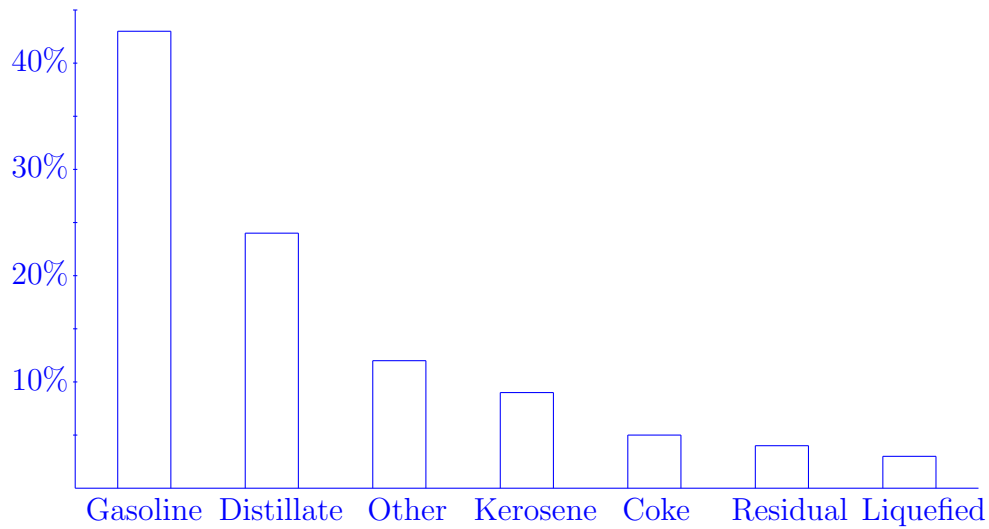
How a 42-gallon barrel of crude oil is distributed

3. Find the mean, median and mode of the following data: The average medical college admission test (MCAT) scores for a sample of seven medical schools are

   9.7   10.3   10.7   11.0   11.7   11.7   11.7

(#19 from 2.3, but without the explanation part, and the data are sorted)

$$\text{mean} = \bar{x} = \frac{9.7 + 10.3 + 10.7 + 11.0 + 11.7 + 11.7 + 11.7}{7} = 10.971$$

$$\text{median} = 11.0$$

$$\text{mode} = 11.7$$

4. For the month of April, a checking account has a balance of \$523 for 24 days, \$2415 for 2 days, and \$250 for 4 days. What is the account's mean daily balance for April? (#43 from 2.3)

$$\text{weighted mean} = \frac{\sum(x \cdot w)}{\sum w} = \frac{523 \cdot 24 + 2415 \cdot 2 + 250 \cdot 4}{24 + 2 + 4} = \$612.73$$