Pre-Algebra
HW 3 Fractions I

1. Identify which of the following are proper fractions.

(a) $\frac{10}{22}$
(b) $\frac{-3}{7}$
(c) $\frac{0}{5}$
(d) $\frac{5}{-1}$
(e) $\frac{2}{0}$

2. Find the greatest common factor of each of the following:

(a) 6 and 10
(b) 20 and 28
(c) 7 and 13
(d) 44 and 34
(e) -12 and -42

3. Using your answers to 2. above, express the following fractions in lowest terms:

(a) $\frac{6}{10}$
(b) $\frac{20}{28}$
(c) $\frac{7}{13}$
(d) $\frac{44}{34}$
(e) $\frac{-12}{-42}$

4. Express the following fractions in lowest terms, and, if possible, as mixed numbers:

(a) $\frac{16}{6}$
(b) $\frac{23}{13}$
(c) $\frac{-27}{18}$
(d) $\frac{32}{-12}$
(e) $\frac{-12}{-4}$

5. For each of the following, write I if it is an improper fraction, M if it is a mixed number, and L if it is in lowest terms. (Each number can get more than one letter.) If it is not in lowest terms already, also write the lowest-terms version of it. If it is an improper fraction, rewrite it as a mixed number, and if it is a mixed number, rewrite it as an improper fraction.

(a) $\frac{14}{7}$
(b) $2\frac{2}{3}$

(c) $-4\frac{2}{4}$

6. For each of the following, write your answer in lowest terms:
(a) What fraction of an hour is 45 minutes?
(b) What fraction of a day is 3 hours?
(c) What fraction of a year is 1 month (30 days)?
(d) What fraction of a dollar is 35 cents?
(e) How many cents is $\frac{1}{3}$ of a dollar?

7. What fraction of an hour after 3:00 PM are each of the following times? Express your answers in lowest terms, and as mixed numbers where appropriate.
(a) 3:06 PM
(b) 2:45 PM
(c) 1:25 AM the next day
(d) 4:32 PM the previous day

8. Find the lowest common denominators of each of the following pairs of fractions, and determine which fraction is larger:
(a) $\frac{4}{9}$ and $\frac{5}{11}$
(b) $-\frac{11}{27}$ and $-\frac{3}{7}$

9. Find a rational number that lies between each of the following pairs of numbers (and express your answer in lowest terms):
(a) $\frac{4}{9}$ and $\frac{5}{11}$
(b) $-\frac{11}{27}$ and $-\frac{3}{7}$
(c) **Extra Credit:** $\frac{22}{7}$ and π

10. Jane and Linda cut an apple so that Jane gets twice as much as Linda gets, and together they eat the whole apple. What fraction of the apple does Jane get and what fraction does Linda get?
Jim sees the amount that both Jane and Linda eat, and decides he would like an amount of apple that is more than what Linda ate but less than what Jane ate. Give an example of an amount of apple that might satisfy Jim.
Express all answers as a fraction.