MATH ♩♪⋆   Homework   **Due: 7 November 2012**

REMINDER: Your peer reviews of the term papers are due on November 5.

(1) Find a name for $\frac{1}{2}$ whose denominator is five less than three times the numerator.

(2) Use a picture of a fraction in each case below to find the value of x.

   (a) $\frac{x}{5} = 1$
   (b) $\frac{x}{5} = 2\frac{3}{5}$
   (c) $\frac{x}{5} = 4$
   (d) $\frac{x}{5} = 0$

(3) If $\frac{2}{3}$ of a brick weighs 12 pounds, how much does the whole brick weigh? Solve this problem using a picture.

(4) (a) Use only the fractions $\frac{1}{8}$, $\frac{1}{4}$, and $\frac{1}{3}$, and the operations $+$ and $-$ to get names for the following fractions. (You are allowed to repeat $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{3}$, $+$, and $-$ as much as you like, and you don't have to use all of them.)

$$\text{(i) } \frac{1}{2} \qquad\qquad \text{(ii) } \frac{7}{12} \qquad\qquad \text{(iii) } \frac{11}{24}$$
$$\text{(iv) } \frac{1}{6} \qquad\qquad \text{(v) } 1 \qquad\qquad \text{(vi) } \frac{7}{24}$$

   (b) Use $\frac{1}{2}$ and $\frac{2}{5}$ and the operations $+$ and $-$ to get names for nine different positive fractions that are less than or equal to 1. List them in order from lowest to highest. (Be sure you don't count different names for the same fraction.)

(5) Henry spends $\frac{3}{14}$ of his monthly income for rent and $\frac{2}{11}$ of what is left on food. If he has $540 left, what is his monthly income? (Hint: Pictures really help.)