Math 5b, homework 4.

1. Represent the following fractions as decimals:

$a.\ \dfrac{3}{2000},$ $b.\ \dfrac{17}{40};$ $c.\ \dfrac{28}{140};$ $d.\ \dfrac{7}{4};$ $e.\ \dfrac{3}{2};$ $f.\ \dfrac{9}{5};$

Example:

$$\dfrac{783}{540} = \dfrac{783:27}{540:27} = \dfrac{29}{20} = \dfrac{29 \cdot 5}{20 \cdot 5} = \dfrac{145}{100} = 1.45$$

2. Write as a fraction

$a.\ 0.\overline{5},$ $b.\ 0.5,$ $c.\ 0.\overline{7},$ $d.\ 0.7,$ $e.\ 0.1\overline{2},$ $f.\ 0.\overline{12},$ $g.\ 0.12$

3. Evaluate:

$a.\ \dfrac{1\frac{1}{2} \cdot 2\frac{2}{3} \cdot 0.36}{0.6 \cdot 2\frac{1}{4} \cdot 1\frac{1}{3}};$ $b.\ \dfrac{0.38 \cdot 0.17 \cdot 2\frac{2}{15} \cdot 2.7}{5.1 \cdot 3\frac{4}{5} \cdot 0.064}$

4. An orange costs 2 cents more than an apple. A grapefruit costs as much as 3 oranges. A fruit basket consists of 10 apples, 5 oranges, and a grapefruit.
   (a) If the price of an apple is a, what is the price of an orange? a grapefruit?
   (b) If the fruit basket costs $1.96, how much each of the fruits cost?

5. How many multiples of 3 are there between 1 and 1400? How many multiples of 3 are there between 1000 and 1400?

6. Compute:

$a.\ -4 - (-9);$ $b.\ -(-8 + (-4));$ $c.\ -3 - (9 + (-6);$

$d.\ -3 - (-7) + (-5);$ $e.\ -2 \cdot (-5) \cdot (-2)$ $f.\ -\dfrac{3}{5} - (-1\frac{1}{5}) =$

7. If you take half my age and add 7, you get my age 13 years ago. How old am I?

Simplify the expressions:

$a.\ 2^4 + 2^4;$ $b.\ 2^m + 2^m;$ $c.\ 2^m \cdot 2^m;$

$d.\ 3^2 + 3^2 + 3^2;$ $e.\ 3^k + 3^k + 3^k;$ $f.\ 3^k \cdot 3^k \cdot 3^k;$