Name: _____ Date: _____

Chapter 7 Problems of the Week

1. Use the chart below to answer these questions.

a) Choose two fractions from each row that have a sum of 3.

b) Choose two fractions from each column that have a sum of 3.

$\frac{4}{6}$	$\frac{1}{2}$	$\frac{1}{3}$
$\frac{2}{3}$	$\frac{1}{6}$	$\frac{3}{6}$
$\frac{1}{6}$	$\frac{2}{6}$	$\frac{5}{6}$

2. Is the last number shown for each pattern correct? Write the five missing numbers in each pattern. Then, write a rule for each pattern.

a) $3\frac{2}{5}, 4\frac{4}{5}, 6\frac{1}{5}, 7\frac{3}{5}, \ldots 16$

b) $12, 11\frac{5}{8}, 11\frac{1}{4}, \ldots 8\frac{1}{4}$

c) $3\frac{1}{8}, 4\frac{3}{4}, 6\frac{3}{8}, 8, \ldots 18$

3. Use each number only once to create two proper fractions with the largest possible sum. Then, repeat to create the smallest possible sum.

a) 1, 2, 3, 4

b) 1, 3, 5, 7

c) 3, 4, 5, 6

4. Use each number once to create two proper fractions with the largest possible difference. Then, repeat to create the smallest possible difference.

a) 2, 4, 6, 8

b) 1, 2, 3, 4

c) 1, 3, 5, 7

5. A well-known paradox states that to walk 10 m, you must first walk half way. Once you are half way, you must walk $\frac{1}{2}$ of that distance, or $\frac{1}{4}$ of the total. When does the $\frac{1}{2}+\frac{1}{4}+\frac{1}{8}$ series get you to the end of 10 m?

6. a) Consider all the Canadian coins from 1¢ to $1. List each coin (including the rare 50¢ piece) as an unreduced fraction of a dollar.

b) If each fraction needed to be represented at least once, how many coins are needed to equal $2? Show your answer as the sum of the fractions.

7. A hairdresser is asked to dye a person's hair all seven colours of the rainbow. No two colours can have the same fraction of the total. Write a plan for the hairdresser using fractions.