Name: _____ Date: _____

Chapter 4 Problems of the Week

1. A secret mosaic code has the following proportions: $\frac{3}{26}$ of the pieces are red, 0.35 are blue, 15% are green, 19% are yellow, and the rest are white. If each colour that is not white represents a different letter of the alphabet, what word is hidden in the mosaic code? Round each value to the nearest whole number.

2. An Arctic ice study finds that the region loses 2% of its ice per year.

a) What percent of the ice will remain after 20 years? Express your answer for each year as a percent rounded to the nearest tenth.

b) At this rate, predict whether there will be any ice left after 50 years. Explain your thinking.

3. Margie received her test results. In science, she answered 15 or 0.83 questions correctly; in math, she scored 13 out of 15; in language arts, she scored 25 out of 42; and in social studies, she scored 67% on an 18-question test. Express each score as a decimal to the nearest hundredth, a fraction, and a percent.

4. A sample from a diamond mine contained 13 diamonds of $\frac{1}{2}$ carat, 27 diamonds of $\frac{1}{4}$ carat, and 125 diamonds of $\frac{1}{8}$ carat. Use a table to show the total carat weight in the sample and the percent of diamonds for each carat weight.

5. A store is having a sale. Which gives the better buy—$5 off or 15% off? Explain your thinking.

6. Abdul says, "If you remove one square from a chessboard, you are removing 1% of the chessboard." Do you agree or disagree? Explain.

7. There were 100 people at a celebration. After 1 hr, 10% of the people left. After 2 hr, the celebration attracted 10% more people. How many people are at the celebration after 2 hr? Express your answer as a percent and a fraction of the original 100 people.

8. You are asked to choose between two groups of friends who will share brownies.

- Group A: Four friends will share eight brownies.
- Group B: Five other friends will share 11 brownies.

Express the amount of brownies you would receive from each group as a fraction and a percent. Which group will you join to get more brownies?