Name _____ Date _____

MATH EXTENSION—PROBLEM OF THE WEEK

Investigation 1: Soils and Weathering

Andy, Bette, Cate, Dustin, Erik, and Franco are rock collectors. Each collector has chosen some rocks from his or her collection to trade. Each collector is going to trade with every other collector. How many different pairs of collectors will trade rocks?

MATH EXTENSION—PROBLEM OF THE WEEK

Investigation 2: Landforms

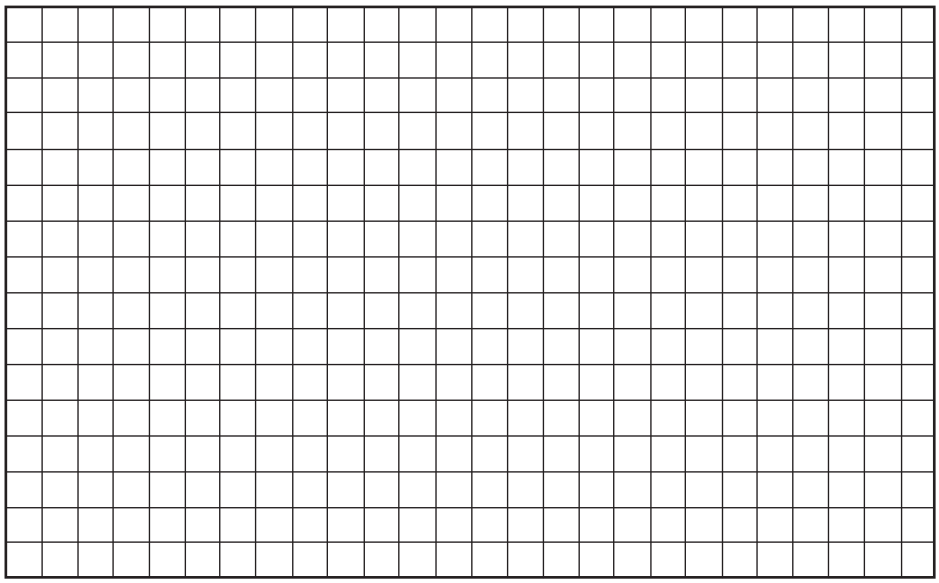
A class investigated how the slope of a stream table affected deposition. Each group tested the same four slopes by elevating the end of the tray 2, 3, 4, and 5 centimeters (cm). They measured the length of the delta after each test. The results are in the data table.

Calculate the average length of the deltas formed. Round your answers to the nearest 0.1 cm.

Slope height	Group 1	Group 2	Group 3	Group 4
2 cm high	4.4 cm	4.8 cm	4.2 cm	4.6 cm
3 cm high	5.2 cm	5.6 cm	5.4 cm	5.2 cm
4 cm high	6.3 cm	6.4 cm	6.1 cm	6.1 cm
5 cm high	7.4 cm	7.6 cm	7.3 cm	7.0 cm

Prepare a graph of the average delta lengths.

Predict the length of the delta if the tray were elevated 1 cm. _____



Name _____ Date _____

MATH EXTENSION—PROBLEM OF THE WEEK

Investigation 3: Rocks and Minerals

Two students were testing minerals for hardness. After working all day, they had tested 57 minerals. Student A tested 9 more minerals than Student B.

1. How many minerals did each student test?

Student B found that one-third of his minerals could be scratched with a steel nail, one-third with an aluminum nail, and one-third with his fingernail. Student A found the same results with the minerals she tested.

2. How many of the minerals were scratched with each tool?

Name _____ Date _____

MATH EXTENSION—PROBLEM OF THE WEEK

Investigation 4: Natural Resources

Two students were playing the game Rock Paper Scissors (rock crushes scissors, scissors cut paper, paper covers rock). They had agreed that at the end of each game, the loser would give the winner a rock from his or her collection.

After playing many games, Student A had won three games, and Student B had won the rest. When they stopped playing, Student B had three more rocks than she had when they began.

What is the fewest number of games of Rock Paper Scissors they could have played?