Name: _____

Date: _____

# The Vermillion Crossing

**Do Now:** Evaluate:

| | |
|---|---|
| 1. $a^3 + b^3 - a^2$ when $a = -2$ and $b = -3$ | 2. $a^3 + a^2b^2 + 15$ when $a = -4$ and $b = 5$ |
| 3. $(a + b)^2 - 16$ when $a = -12$ and $b = -10$ | 4. $(a - b)^3 - (6a)^2$ when $a = -3$ and $b = -5$ |

*As you read the task, underline any word you think might be important. Write a question mark next to any concept you don't understand and circle any word you don't understand. Draw a box around the question or task you are being asked to complete, if any.*

**Vocabulary/Concept Bank**

| Important term | Definition |
|---|---|
| | |
| | |

Louis Vieux was a business manager, interpreter, and chief of the Potawatomi. He made many trips to Washington to consult with officials about Native American affairs.

Vieux was also a ferry operator. He operated a ferry and toll bridge over the Vermillion River, the third major river crossing in Kansas.

Vieux charged a certain amount for each wagon plus an additional amount for each person, with different amounts for men, women, and children. Suppose that the amount he charged was given by the equation

$$\text{price to cross (in dollars)} = 0.5W + 0.25M + 0.1F + 0.05C$$

Here, $W$ represents the number of wagons, $M$ the number of men, $F$ the number of women, and $C$ the number of children.

1. Use this formula to explain what Vieux charged in each cost category (that is, for each wagon, for each man, and so forth).

2. What would be the crossing cost for the family unit for which you are responsible? As in *To Kearny by Equation*, assume that a wagon could hold at most 6 people—so a group of between 7 and 12 people required two wagons, a group of between 13 and 18 required three wagons, and so on.

3. What would be the total cost for your group's four family units?