

1. **Textbook:** Read Big Idea 4 on pages 32-34

Big Idea 4 states, “Numbers are abstract concepts.” List some ideas (at least 4) from this reading that explains what this means.

2. **Choose ONE of these two problems.** Use the 4-step problem solving process to solve this problem. Use the scoring rubric as a guide. Evaluate your solution on the scoring guide and attach one to your paper.

Road Repair

A work team of four people completes half of a road repair job in 15 days. How many days will it take a team of ten people to complete the remaining half of the job? (Assume that each person of both teams works at the same rate as each of the other people.)

Alice’s Paycheck

Alice earned a total of \$65 for working five days after school. Each day after the first day, she earned \$2 more than she earned the day before. How much did she earn on the first day?

3. **Skills practice.**

- A. Add these numbers in the usual way. Write your answer here. _____

$$235 + 121 + 896 + 127 + 209 =$$

Round all of the addends to the nearest ten before you add. Write the answer here. _____

Round all of the addends to the nearest hundred before you add. Write the answer here. _____

- B. Suppose that the Department of Mud Puddles announces an expenditure of \$2,747,986. You are a news writer. You don’t believe that this number is meaningful for your audience so you round it to the nearest million.
- Write your statement for your news article.
 - How much money did you secretly add to the expenditure by way of your report? Do you think that rounding to the nearest million is appropriate for this news report or would you do the rounding differently?

C. Complete these computations in Base Six:

$$\begin{array}{r} 352_{\text{Six}} \\ + 434_{\text{Six}} \\ \hline \end{array}$$

$$\begin{array}{r} 420_{\text{Six}} \\ - 241_{\text{Six}} \\ \hline \end{array}$$

D. Operation Δ is defined as follows:

Δ	A	B	C	D
A	C	D	A	B
B	D	A	B	C
C	A	B	C	D
D	B	C	D	A

1. Questions about Operation Δ

- Find $B \Delta C$
- Find $D \Delta D$
- Find $C \Delta B$
- Find $A \Delta C$

2. Is operation Δ commutative? How do you know?

3. Is there an identity element for operation Δ ? Show how you know.

4. Is there an inverse for D? How do you know?