Journal and Portfolio Assignments for Mathematics 396

1. Journal Assignments

There will be **four** journal assignments during the term. There are four articles on **e-reserve** in the library, under Math 396. For each assignment, please read the specified article carefully and then do the following:

- **Type** a ¾-1 page summary of the article. (Single-spaced)
- Describe in some detail the most important points or ideas of the article,
- Give your reaction to the article. In particular, answer the following questions:
    1. Did you like the article?
    2. What ideas would you carry into your classroom from this article?

The due dates for the Journal Assignments will go as follows:

Journal 1 (*Posing Problems That Matter*) is due on 1/16/2008 in class.
Journal 2 (*The Day Math & Reading Got Hitched)* is due on 1/30/2008 in class.
Journal 3 (*Student-generated story problems)* is due on 2/13/2008 in class.
Journal 4 (*7 Things I Learned about Teaching*) is due on 2/27/2007 in class.

You will be assessed according to the following ***journal rubric***:

- **Completeness**: 0-2 (minimal or ineffective), 3-5 (some components missing), 6(complete and well-developed)
- **Clarity**: 0-2 (minimal), 3-5 (in development), 6(excellent)
- **Proper usage of language**: 0-2(in development), 3(easy to read and flawless)

2. Portfolio Assignments

There will be **five** portfolio assignments during the term. These will be problems that each of you is going to write with the task of illustrating a particular prescribed problem solving strategy. These problems should have **at least three** different mathematical steps to them! They should be fairly difficult. Try to make the problems **interesting** and **relevant** to children's lives, and thus useful for you upon entry into the teaching profession.

Have fun and use your imagination! Try to write these problems ON YOUR OWN, without borrowing from other resources. Be sure to cite your reference if applicable.

INSTRUCTIONS: Write your very own multi-step story problem that can be solved and will be solved most effectively using the prescribed problem solving strategy below:

a. **Portfolio 1** due on 1/18/2008: draw a diagram or use a picture (**a table is NOT a picture/diagram**) (choose one of these strategies or the other!)
b. **Portfolio 2** due 1/25/2008: make a list of all the possibilities or eliminate possibilities (choose one of these strategies or the other!)
c. **Portfolio 3** due 2/1/2008: use sub-problems or patterns (choose one of these strategies or the other!)
d. **Portfolio 4** due 2/8/2008: use algebra
e. **Portfolio 5** due 2/15/2008: use Venn Diagrams

Please organize your writing in the following format: **Problem, Prescribed Strategy, Solution, Verification, Comments for Teachers.** The **Comments for Teachers** section can include ideas for (a) extending or generalizing the problem, (b) reflective comments about which topics this problem illustrates within the K-12 mathematics curriculum, and/or (c) which grades the problem is appropriate for.

The entire portfolio problem is assessed on a scale of 25 points.

Prescribed Strategy: Two (2) points are given for specifying which problem solving strategy your problem is illustrating.

Problem: Ten (10) points are given for this section of the assignment which contains the wording of the actual problem:

- Two (2) points are given for a problem that can be best solved using the prescribed strategy in the assignment.
- Two (2) points are given for writing a problem that illustrates an important mathematical idea.
- Three (3) points are given for an interesting story.
- Three (3) points are given for clarity and good use of language.

The remaining thirteen (13) points are assigned as follows:

- Six (6) points for a complete and correct **Solution**.
- Four (4) points for **Verification**.
- Three (3) points for the **Comments for Teachers** section.

IMPORTANT: Please **staple** one of the appropriate scoring sheets from your course pack to each of your portfolio assignments: