Clinical Interviewing Project

Purpose:
In this project, you will have the opportunity to plan, conduct, reflect on, and report about a clinical interview. The goal of this special type of interview is to get as good an understanding as possible of what someone knows and thinks about a particular mathematical idea. This project will provide you with very detailed information about students' thinking that is not always feasible in the midst of classroom teaching but the types of questions used in such an interview are tools that can be used in classroom instruction to obtain very valuable information about student thinking and to assess learning.

Procedure
1. Pick Your Task

[Note for instructor: Depending on the timing and goals, you may which to specify which of the two tasks are used for the assignment. In that case, modify this section so it only contains the task you want to be used. Alternatively, you could have students select a DIFFERENT CCSSM sample transformational geometry task and conduct their interview using that task instead.]

Select one of the two tasks (included at the end of this file) as the focus for your interview.

2. Prepare for and conduct the interview
Plan your interview. Do whatever you think will help you prepare to conduct your interview. At a minimum, you should do the task(s), consider some possible responses you might get from your interviewee, and anticipate what you will ask as follow-up questions. Keep some record of what you did to plan (for example, any notes you make as you plan and any notes you create that you will refer to during the interview).

Find a way to record your interview. If you do not have an audio recorder, there are several free programs that enable you to record audio onto your computer or phone that you can download for free (or may have been install on your computer or phone when you got it).

While it is not possible to predict exactly how long a particular interview will last, make plans for something that will last approximately 20 minutes. If you wish, you may stop the interview after 20 minutes even if your interviewee is not done with the task or if, under other circumstances, you would continue asking more questions.

You may select anyone to be your interviewee. Just make sure that they have the relevant background to at least get started on your task. Remember: Your goal is to find out what they know about the topic and how they think as they work on the task—your goal is NOT to teach or coach them towards the solution.

Make sure you tell your interviewee about the purpose of the interview before you start. You should say something like the following: "I'm conducting this interview so I can learn about how people think about [topic you've selected]. I will show you a problem and I would like you to tell me what you are thinking as you work on it. I do not care how quickly you get to the answer or even whether you get the answer at all—I am only interested in your thinking. I may ask you some questions as you work so I can make sure I am accurately following your thinking."

3. Analyze your interview

Write your initial reflections on the interview. Write down your first impressions of how the interview went.

Below are questions to think and write about as you reflect on the interview. These questions will form the basis for your project report.

1. Did the interview go as you planned/envisioned? In what ways was it the same as or different from what you intended/planned? Did anything surprising happen?
2. Did you feel well-prepared to ask questions or flustered at some points?
3. Do you feel that you got good insights into what your interviewee knew/thought about your topic/problem?
4. Were there any questions you asked that were especially effective for getting information about your interviewee's thinking? What were they? What happened that indicates they were effective?
5. Were there any questions or comments you made that were NOT effective for getting information? What were they? What happened that indicates they were NOT effective? Are there things you now wish you had asked?
6. What do you think your interviewee definitely knew/understood about your topic? What did he/she say or do that convinced you they definitely knew or understood that idea?
7. Are there things you think your interviewee definitely did NOT know or understand? What was said or done during that you would say is evidence for the claim that they did not know or understand that idea?
8. Did your interviewee's understanding of the common English language meanings of words such as "reflection," "rotation," "translation" or "dilation" play any role in their understanding of and work on the task?
9. Create a list of productive and unproductive ways your interviewee thought as he/she worked on the task.
10. Described the strategies and difficulties your interviewee demonstrated while doing the actual drawing/constructing of the figure.
11. How well do you feel you understand what your interviewee knew/thought?

4. Write Project Report
Your project report should include the following:

a. The task you used
b. A description of what your interviewee did with the task. In other words, provide a chronological description of the things your interviewee did while working on the task from their initial work through the end of the interview. This does NOT need to be super-detailed but it needs to provide enough information that a reader could follow what the major things are that the interviewee did or tried to do to solve the task
c. Responses to the questions listed in section 3 above. You may keep your responses in a list form if you wish but be sure to address all of the questions and to have your answers in complete sentences and paragraphs and not just short notes.

5. Present Your Report in Class
During class, you will tell the class about your interview. Your report should include the information you wrote in response to questions 8, 9 and 10 above.

Grading
All parts of this assignment will be graded based on how complete they are (e.g., did you provide all the

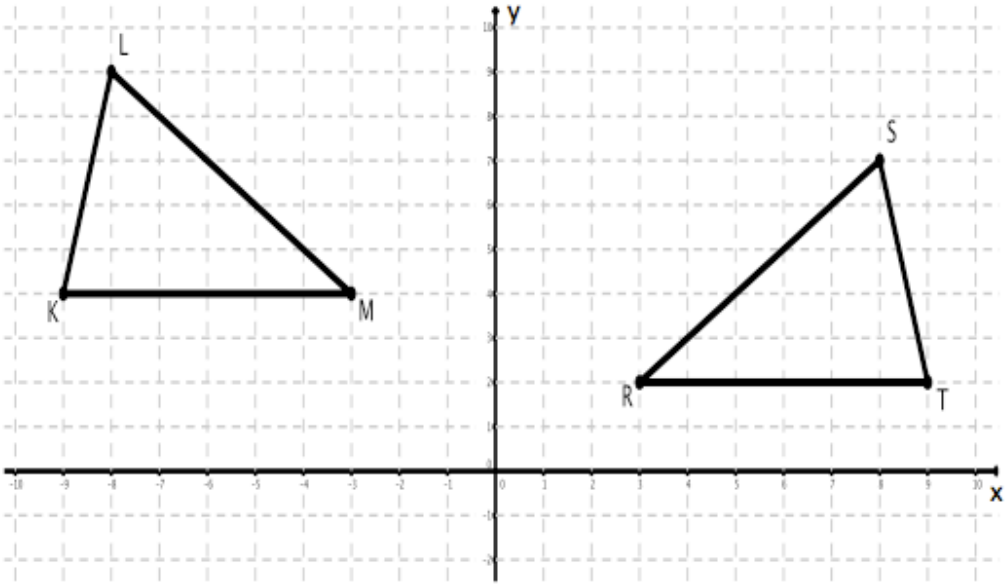
information requested and/or answer all of the questions included in the description of the assignment?) In addition, where relevant, grading will also be based on how clear and convincing your arguments are (e.g., when you claim your interviewee knew something, how much evidence do you provide for that claim and how clear is your discussion of why that evidence supports your claim?). And as always, grading will also be based on how clearly you present your ideas and the required information.

TASKS:

Task #1a

Which sequence of transformations carries ΔKLM to ΔTSR?

A) reflection over the x-axis and translation 2 units down
B) reflection over the y-axis and translation 2 units down
C) translation 2 units down and 90° rotation about the origin
D) translation 12 units right and 90° rotation about the origin

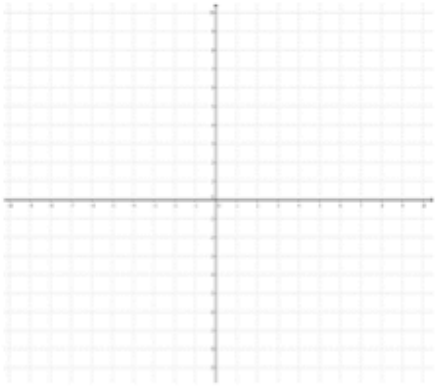


Task #1b

For each of the *incorrect* choices in Task #1a, carry out the transformation and describe how the resulting image is different from ΔTSR.

Task #2

ΔABC is rotated 90° clockwise about the origin to form ΔDEF. ΔDEF is transformed by a dilation centered at the origin, with scale factor 4. The result is ΔQRS. (You may use the space below.)



Part 1: What parts of ΔQRS are congruent to the corresponding parts of ΔABC? Explain your reasoning.

Part 2: What is the relationship between the perimeter of ΔQRS and ΔABC? Explain your reasoning.