MKT Tasks as Representations of Practice for Undergraduate Preparation of Secondary Mathematics Teachers

RESEARCH QUESTIONS: Considering tasks assessing mathematical knowledge for teaching as representations of mathematics teaching practice:

- What are instructional purposes of teacher education towards which such representations of practice can or could be used?
- How does pedagogical context, as embedded in a representation of practice, interact with movement toward an instructional purpose of teacher education?

EXAMPLE TASK ASSESSING MATHEMATICAL KNOWLEDGE FOR TEACHING (MKT TASK):

During a lesson on solving multistep equations, Ms. Kane asked her students to solve the equation -5x + 8 = 13x - 10. While walking around the classroom looking at what the students were writing, she noticed several different strategies. For each of the following student solutions, indicate whether or not the work provides evidence that the student is reasoning correctly about this problem.

		Provides Evidence of Correct	Does Not Provide Evidence of Correct
	-5x +8= 13x-10	Student Reasoning	Student Reasoning
(A)	8 = 18x - 10		
	18 = 18x		
	(1=x)		
(B)	- 5x +8 = 13x -10		
	$\frac{3x}{3} = \frac{3}{3}$		
	x = 1		
(C)	-5x+8-13x+10=13x-10-13x+10		
	-5x-13x+8+10=0		
	-18x + 18 - 18 = 0 - 18		
	1 -18x = -18 . 1		
	X=1		
(D)	-5x +8 = 13k -10 -13x +8 -13x -8		
	$\frac{-18x = -18}{-18}$		
	-18 -18		
	(X = 1)		

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KEY REFERENCES

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