

Figure 1.5

### Sample Higher-Level-Cognitive-Demand Task Discussion Tool

**Standard:** I can understand the meaning of equivalent expressions.

Look at each expression. Is it equivalent to $\frac{x+3y}{2}$ ?  Select Yes or No for expressions A–D.	<b>A.</b> $\frac{4x+3y}{8}$	<input type="radio"/> Yes	<input type="radio"/> No
	<b>B.</b> $\frac{5}{4} \left( \frac{2x+6}{5} \right)$	<input type="radio"/> Yes	<input type="radio"/> No
	<b>C.</b> $\frac{1}{2} (x+3y)$	<input type="radio"/> Yes	<input type="radio"/> No
	<b>D.</b> $\frac{2}{3} \left( \frac{5x}{6} + \frac{9y}{4} - \frac{x}{12} \right)$	<input type="radio"/> Yes	<input type="radio"/> No

Explain why each choice (A, B, C, and D) is equivalent or why it is not equivalent.

**Directions:** Find a solution pathway to the problem by yourself first, and then discuss the mathematics task with your collaborative team.

1. How are your collaborative team members' responses the same? How do they differ?
2. How does this task (and your solution pathway to the task) support the essential learning standard for equivalent expressions, and what is the prerequisite knowledge needed for the task?
3. How does this task meet the criteria for higher-level cognitive demand?
4. Which Mathematical Practices or processes might students engage while solving this higher-level-cognitive-demand mathematical task?
5. Where might students get stuck when trying to work on this task together?

Source for task: Smarter Balanced Assessment Consortium. (2013). Grade 7 task sample 43053. Accessed at <http://sampleitems.smarterbalanced.org/litempreview/sbaclindex.htm> on March 24, 2014. Used with permission.