This task can be used with students or with PLCs, and can be used as a card sort or a grouping activity. Card Sort directions are shown below. Either way, after the cards are sorted or the groups formed, the groups should discuss and report on the additional questions below. A follow-up activity for the task is shown on the Students’ Suggestions handout.

Card Sort Directions:

Have students get into groups of 3. Directions: NO TALKING. Turns move clockwise around the group. When it is your turn, you may ***only*** offer someone else a card you have, you may not take a card from someone else. However, you may pass your turn. There are three sets of equivalent equations. The goal is for each person to have one set of equivalent equations. When everyone passes their turn in the same round, you may talk and determine if you have the correct equations grouped. Think for a minute about what strategies you are going to use, then when everyone is ready to start begin.

Additional questions:

1. How do you know your equations are equivalent? Consider the CCSS Algebra cluster statement as you answer: Understand solving equations as a process of reasoning and explain the reasoning.
2. Under what conditions are your equations equivalent?
3. Come up with at least 5 more equations that are equivalent to yours.
4. Suppose all variables represent positive real numbers, and suppose *P* doubles. How must the other variables change to maintain equality, and how could they change? Consider as many possibilities as you can.