**Thinking About the Addition of Fraction in the Context of Basketball**

1. On Wednesday, January 22, 2014, the Phoenix Suns beat the Indianapolis Pacers 124 – 100. In that game, the Suns attempted 32 free throws and made 23 of them. Express this free throw statistic in fractional form.

2. Describe the meaning of this fraction.

Take the collection of 32 free throw attempts and “cut” them up into individual attempts and consider one of them. Each individual attempt is of the 32 total attempts. The Suns made 23 copies of . That is, they made of the attempted free throws.

3. On Sunday, January 19, 2014, the Phoenix Suns beat the Denver Nuggets 117 – 103. In that game, the Suns attempted 26 free throws and made 17 of them. Express this free throw statistic in fractional form.

4. Describe the meaning of this fraction.

Take the collection of 26 free throw attempts and “cut” them up into individual attempts and consider one of them. Each individual attempt is of the 26 total attempts. The Suns made 17 copies of . That is, they made of the attempted free throws.

5. Can you add the fractions from #1 and #3? If so, how? If not, why not? If so, what would this sum mean?

In this context, it makes sense to add numerators and denominators and say that the Suns, over the two games, made 40 of the 59 free throws. That is, they made of the free throws attempted.

6. Suppose a student added the fractions from this situation using a common denominator as follows:



Explain what this result would mean (hypothetically) in the context of the basketball situation presented. That is, try to force a meaningful explanation on this computation. Then, explain why this method cannot be useful in this situation.

In forcing a context, we would say that the Suns attempted a total of 416 free throws and made 571 of them? This, obviously, makes no sense in the context of the situation. The point is that, as with all things, we want students to perform mathematical computations or procedures in a meaningful way!