G3-M3-Lesson 17

1. Explain how $8 \times 7 = (5 \times 7) + (3 \times 7)$ is shown in the multiplication table.

   The multiplication table shows $5 \times 7 = 35$ *and* $3 \times 7 = 21$. *So,* $35 + 21 = 56$, *which is the product of* 8×7.

   This is the break apart and distribute strategy. Using that strategy, I can add the products of 2 smaller facts to find the product of a larger fact.

2. Use what you know to find the product of 3×16.

   $3 \times 16 = (3 \times 8) + (3 \times 8)$
   $= 24 + 24$
   $= 48$

   I can also break up 3×16 as 10 threes + 6 threes, which is $30 + 18$. Or I can add 16 three times: $16 + 16 + 16$. I always want to use the most efficient strategy. This time it helped me to see the problem as double 24.

3. Today in class we found that $n \times n$ is the sum of the first n odd numbers. Use this pattern to find the value of n for each equation below.

   a. $1 + 3 + 5 = n \times n$
   $9 = 3 \times 3$

   b. $1 + 3 + 5 + 7 = n \times n$
   $16 = 4 \times 4$

   The sum of the first 3 odd numbers is the same as the product of 3×3. The sum of the first 4 odd numbers is the same as the product of 4×4. The sum of the first 5 odd numbers is the same as the product of 5×5.

   c. $1 + 3 + 5 + 7 + 9 = n \times n$
   $25 = 5 \times 5$

   Wow, it's a pattern! I know that the first 6 odd numbers will be the same as the product of 6×6 and so on.