Day 5 – Consecutive Number Equations – Notes

1. **Consider the following numbers:**
   45, 46, 47 102, 103, 104 30, 31, 32 99, 100, 101

   a. What patterns do you notice?
   increase by 1 each time

   b. How does the second number compare to the first number?
   one more

   c. How does the third number compare to the first number?
   two more

2. **Consider the following numbers:**
   32, 34, 36 98, 100, 102 50, 52, 54 78, 80, 82

   a. What patterns do you notice?
   even, increase by 2

   b. How does the second number compare to the first number?
   2 more

   c. How does the third number compare to the first number?
   4 more

3. **Consider the following numbers:**
   45, 47, 49 103, 105, 107 29, 31, 33 157, 159, 161

   a. What patterns do you notice?
   odd, increase by 2

   b. How does the second number compare to the first number?
   2 more

   c. How does the third number compare to the first number?
   4 more

Numbers that follow each other in order, without gaps, are called consecutive.

4. Create an expression for if you didn't know the first number, but knew they were consecutive:

   a. Pattern in Problem 1: $x + x+1 + x+2$

   b. Pattern in Problem 2: $x + x+2 + x+4$

   c. Pattern in Problem 3: $x + x+2 + x+4$

Consecutive Numbers

Consecutive Numbers Chart				
Type of Consecutive Numbers	Examples	Expressions for Terms First	Second	Third
Consecutive Numbers	4, 5, 6 27, 28, 29	x	x + 1	x + 2
Consecutive Even Numbers	8, 10, 12 62, 64, 66	x	x + 2	x + 4
Consecutive Odd Numbers	23, 25, 27 89, 91, 93	x	x + 2	x + 4

1. The sum of three consecutive numbers is 72. What is the smallest of these numbers?

Variables: X: smallest integer

Equation: $x+x+1+x+2=72$

$3x+3=72$
$-3 \quad -3$
$\frac{3x}{3}=\frac{69}{3}$
$x=23$

2. Find three consecutive odd integers whose sum is 261.

Variables: X: Smallest integer

Equation: $x+x+2+x+4=261$

$3x+6=261$
$-6 \quad -6$
$\frac{3x}{3}=\frac{255}{3}$
$x=85$

85, 87, 89

Finish your equation to SOLVE the problem.