

SOL 4.15 STUDY GUIDE (PART 1 – NUMBER PATTERNS)

Part A: Number Patterns using adding or subtracting to find the next number (or another number in the series)

Step 1: Look at the pattern carefully, notice whether the pattern is increasing or decreasing.

45, 50, 56, 63, 70, _____

Step 2: Are the numbers increasing? Then you are adding or multiplying.
Are the numbers decreasing? Then you are subtracting or dividing.

45, 50, 56, 63, 70, _____ ← Here the numbers are increasing.

Step 3: Use your math skills to figure out the pattern. Put a "carrot" above each number, saying what is happening between the two numbers.

$\begin{array}{ccccccc} & +5 & +6 & +7 & +8 & & \\ & \wedge & \wedge & \wedge & \wedge & & \\ 45, & 50, & 56, & 63, & 71, & & \end{array}$ _____

Step 4: Solve the pattern. In this case the *answer is 80*.

Examples:

1. What is the next number in this pattern?

6, 9, 12, 15, 18, _____

2. What is the next number in this pattern?

5, 7, 9, 11, 13, _____

3. What is the tenth number in this pattern?

1, 2, 4, 7, 11, 16,

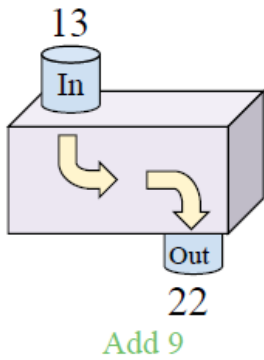
4. What is the eighth number in this pattern?

2, 4, 8, 16, 32,

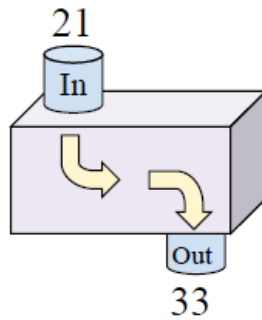
Part B: In/Out Machines

Determine the rule each function machine is using.

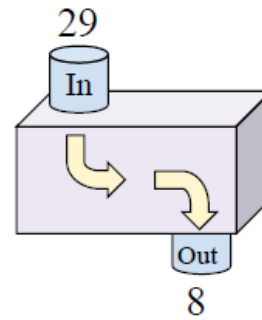
Ex)



1)



2)



Part C: Tables to find a pattern

First, figure out what changes from the “In” column to the “Out” column to determine what you could put in the empty spaces. Then, fill in the empty spaces, and write the rule for each pattern.

Example 1:

In	Out
2	4
4	8
8	16
12	?

Rule: Double the “in” column to get the “out” column

Example 2:

In	Out
4	6
15	17
?	22
25	27

Rule: Add 2