Name: _____ **Block:** _____

SOL 5.18 Patterns & Functions Look-A-Likes

1. Complete the table using the equation " **X + 7 = y**"

X	y
2	
3	
4	
5	

2. Look at the pattern in the table.

Input	Output
3.5	14
1.2	4.8
0.8	3.2
0	0

Which could be the rule the number machine uses to change the input numbers to the output numbers.

a. Add 4
b. Add 10.5
c. Multiply by 4
d. Multiply by 10.5

3. Which statement best describes how to find the next number in the increasing pattern?

1, 3, 7, 13, 21 . . .

a. Add 10 to 21
b. Divide 18 by 2
c. Multiply 18 by 0.5
d. Add 2 to 21

4. An increasing pattern is shown. What would be the 7^{th} term in the sequence? _____

0.15, 0.35, 0.55, 0.75 . . .

5. A number machine uses a rule to change numbers. The table below shows the results.

Input	Output
20	5
36	9
44	11
84	21

Which could be the rule the number machines uses top change the input numbers toy he output numbers?

a. Add 15
b. Subtract 15
c. Divide 4
d. Multiply by 4

6. Which statement best describes how to find the next number in the increasing pattern?

$$\frac{1}{4}, \frac{3}{4}, 1\frac{1}{4}, 1\frac{3}{4} \ldots$$

a. Add $\frac{1}{4}$
b. Add $\frac{2}{4}$
c. Multiply by 2
d. Multiply by $\frac{2}{4}$

7. Which pattern follows the rule " divide by 3" to find each number after the first?

a. 59, 50, 49, 40 . . .
b. 66, 33, 16.5, 8.25 . . .
c. 12, 36, 108, 324 . . .
d. 360, 120, 40, 13.333 . . .

8. Look at the pattern in the table.

Input	Output
$\frac{1}{3}$	1
$\frac{2}{3}$	$1\frac{1}{3}$
1	$1\frac{2}{3}$
$1\frac{1}{3}$	2

What is the rule? _____

9. What is the 8th term in this decreasing pattern? _____

91, 78, 65, 52, 39, . . .

10. Which algebraic expression best defines the relations of the input and output values in the table below?

n	p
9	6
17	14
24	21
38	35

a) n + 3
b) n – 3
c) n x 3
d) n ÷ 3