3rd Grade Operations & Algebraic Thinking-
Solve problems involving the four operations, and identify and explain patterns in
arithmetic, Test 1

Multiple Choice
Identify the choice that best completes the statement or answers the question.

1. What would be the next number in this pattern? 3   6   _____
    a. 3   c. 9
    b. 12   d. 7

2. What would be the next number in this pattern? 2   4   6 8 10 12   _____
    a. 14   c. 10
    b. 20   d. 13

3. What would be the next number in this pattern? 7   14 21   _____
    a. 22   c. 30
    b. 28   d. 20

4. What would be the next number in this pattern? 1 2 4 8   _____
    a. 12   c. 10
    b. 6   d. 16

5. What would be the next number in this pattern? 10 15 20 25   _____
    a. 20   c. 26
    b. 50   d. 30

6. What would be the next number in this pattern? 20 _____   40 50
    a. 30   c. 25
    b. 50   d. 21

7. What number is missing in this pattern?   3 6 9 ____ 15 18
    a. 12   c. 14
    b. 10   d. 3

8. What number is missing in this pattern?   20 16 _____ 8 4 0
    a. 4   c. 14
    b. 12   d. 10

9. What number is missing in this pattern? 77 79 81 _____
    a. 82   c. 83
    b. 85   d. 75

10.

x	y
1	3
4	6
7	9
10	12
13	x

What number will go in spot x?

a. 13
b. 15

c. 14
d. 9

11.

x	y
10	8
14	12
18	14
22	18
24	20

What is the pattern in this graph?

a. + 4
b. + 1

c. - 2
d. + 2

12. What number is missing in this pattern?   6   12   18   24   18   12   _____

a. 0
b. 6

c. 18
d. 9

13.

0	1	2	3	4					
1	2	3	4	5					
2	3	4	5	6					
3	4	5	6	7					
4	5								
					X				

What number would go in square X?

a. 11
b. 8

c. 9
d. 10

Answer 1: C

> We are adding 3's, so 6 + 3 = 9.

Answer 2: A

> We are adding 2's, so 12 + 2 = 14.

Answer 3: B

> We are adding 7's, so 21 + 7 = 28.

Answer 4: D

> We are doubling your number each time, which means we add the number to itself - 1 + 1 =2, 2 + 2 = 4, 4 + 4 = 8. At the end, 8 + 8 = 16

Answer 5: D

> Add by 5's.

Answer 6: A

> Add by 10's.

Answer 7: A

> The pattern is +3, so 9 + 3 = 12

Answer 8: B
Answer 9: C

x	y
1	3
4	6
7	9
10	12
13	x

Answer 10: B

> The pattern is + 2. 1 - 3, 4 - 6, etc. At the bottom, 13 + 2 = 15

x	y
10	8
14	12
18	14
22	18
24	20

Answer 11: C

> 10 - 8 = 2
> 14 - 12 = 2   See the pattern?
> 18 - 14 = 2

Answer 12: B

The pattern went up by 6's, then started down by 6's. 12 - 6 = 6

0	1	2	3	4						
1	2	3	4	5						
2	3	4	5	6						
3	4	5	6	7						
4	5									
					x					

Answer 13: D