NAEP Released Items Aligned to the Iowa Core

2.OA.1 Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.

There are 30 people in the music room. There are 74 people in the cafeteria. How many more people are in the cafeteria than the music room?

A. 40
B. 44
C. 54
D. 104

2005-4-12-4

Source: National Assessment of Educational Progress, 2005, Grade 4 Mathematics Assessment.

On Thursday Becky made some popcorn balls.
On Friday she made 6 popcorn balls.
On Saturday she made 12 popcorn balls.
Becky took all 23 popcorn balls that she made to a party.

How many popcorn balls did she make on Thursday?

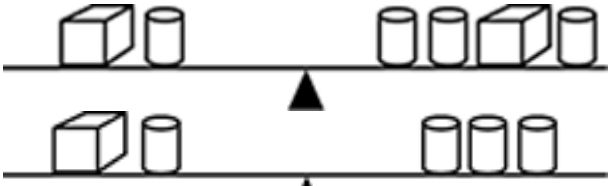
A. 5
B. 11
C. 17
D. 41

2003-4-10-7

Source: National Assessment of Educational Progress, 2003, Grade 4 Mathematics Assessment.

On the scale above, 2 cylinders balance 1 cube. Which of the scales below would balance?

A.



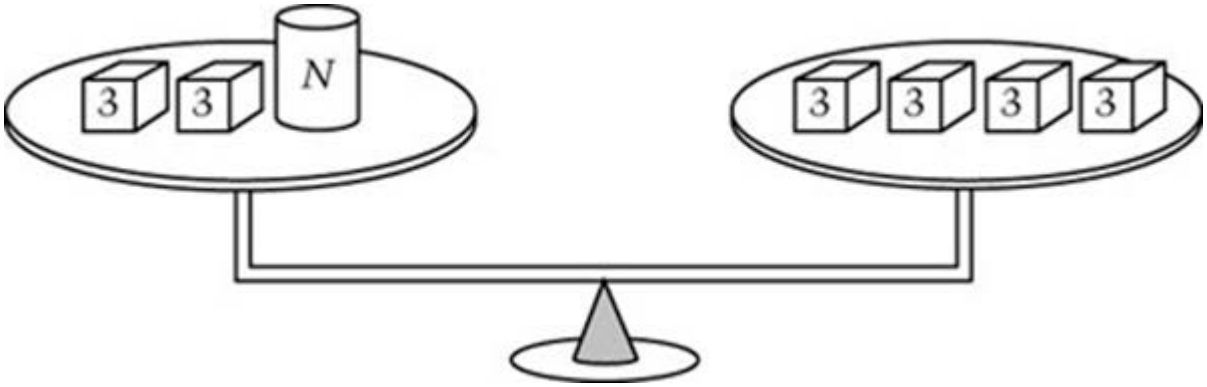
B.

C.

D.

2011-4-12-7

Source: National Assessment of Educational Progress, 2011, Grade 4 Mathematics Assessment.



The weights on the scale above are balanced. Each cube weighs 3 pounds. The cylinder weighs *N* pounds. Which number sentence best describes this situation?

A. $6 + N = 12$
B. $6 + N = 4$
C. $2 + N = 12$
D. $2 + N = 4$

2007-4-7-4

Source: National Assessment of Educational Progress, 2007, Grade 4 Mathematics Assessment.

Paco had 32 trading cards. He gave *N* trading cards to his friend. Which expression tells how many trading cards Paco has now?

A. 32 + *N*
B. 32 - *N*
C. *N* - 32
D. 32 ÷ *N*

2007-4-9-5

Source: National Assessment of Educational Progress, 2007, Grade 4 Mathematics Assessment.

14, 26, 38, _____, _____

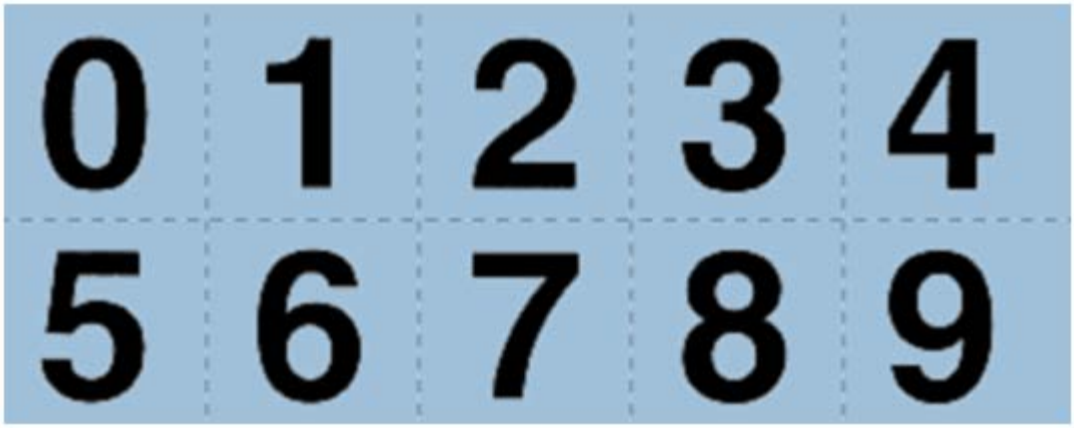
The numbers in the pattern above are increasing by 12. Which of these numbers is part of the pattern?

A. 52
B. 58
C. 60
D. 62

2007-4-11-3

Source: National Assessment of Educational Progress, 2007, Grade 4 Mathematics Assessment.

You may use number tiles to help you answer this problem.



Jan entered four numbers less than 10 on his calculator. He forgot what his second and fourth numbers were. This is what he remembered doing.

$$8 + \square - 7 + \square = 10$$

List a pair of numbers that could have been the second and fourth numbers.
(You may use the number tiles to help you.)

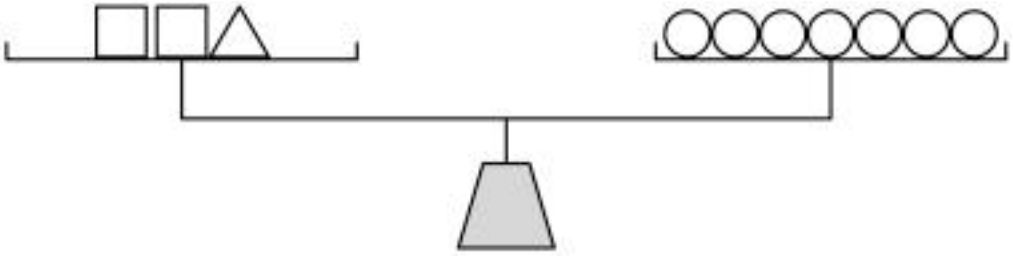
_____ , _____

List a different pair that could have been the second and fourth numbers.

_____ , _____

2005-4-4-12

Source: National Assessment of Educational Progress, 2005, Grade 4 Mathematics Assessment.



The objects on the scale above make it balance exactly. According to this scale, if △ balances ○○○, then □ balances which of the following?

A. ○
B. ○○
C. ○○○
D. ○○○○

2003-4-6-13

Source: National Assessment of Educational Progress, 2003, Grade 4 Mathematics Assessment.

M = 2
K = 6
L = 3

2. What is K + L - M?
   A. 1
   B. 5
   C. 7
   D. 11

2003-4-10-8

Source: National Assessment of Educational Progress, 2003, Grade 4 Mathematics Assessment.

N stands for the number of stamps John had. He gave 12 stamps to his sister. Which expression tells how many stamps John has now?

A. N + 12
B. N - 12
C. 12 - N
D. 12 x N

1996-4-9-3

Source: National Assessment of Educational Progress, 1996, Grade 4 Mathematics Assessment.

$$58 = \square + 36$$

What number should go in the box above to make the number sentence true?

2008-9-21-15

Source: National Assessment of Educational Progress, 2008, Age 9 Mathematics Assessment.

2.OA.2 Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.

What are all the whole numbers that make 8 - $\square$ > 3 true?

A. 0, 1, 2, 3, 4, 5
B. 0, 1, 2, 3, 4
C. 0, 1, 2
D. 5

2003-4-6-20

Source: National Assessment of Educational Progress, 2003, Grade 4 Mathematics Assessment.

2.OA.3 Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; write an equation to express an even number as a sum of two equal addends.

Sam did the following problems.

2 + 1 = 3

6 + 1 = 7

Sam concluded that when he adds 1 to <u>any</u> whole number, his answer will always be odd.

Is Sam correct? _____

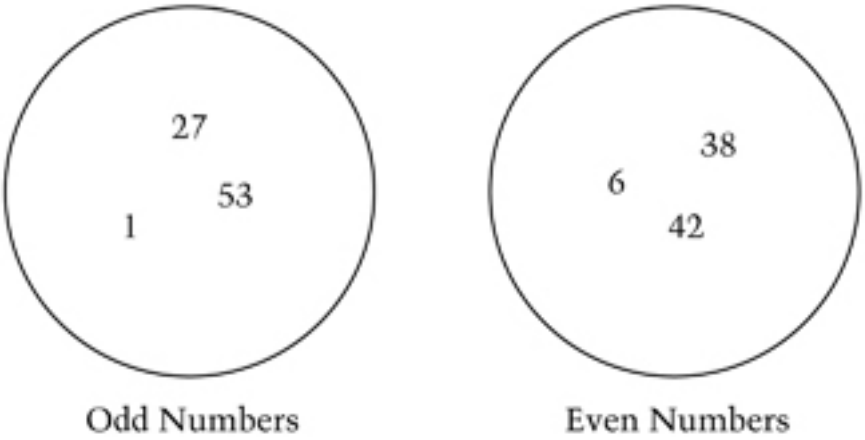
Explain your answer.

2009-4-10-11

Source: National Assessment of Educational Progress, 2009, Grade 4 Mathematics Assessment.

Write each of the following numbers in the circle where it belongs.

30, 47, 124



2007-4-9-6

Source: National Assessment of Educational Progress, 2007, Grade 4 Mathematics Assessment.

	Ms. King's Class	Mr. West's Class	Ms. Chang's Class
Number of Students	20	25	28

In each class listed above, the students are lining up with a partner to walk to lunch. Which class will have one child with no other child for a partner?

Explain your choice.

2007-4-9-9

Source: National Assessment of Educational Progress, 2007, Grade 4 Mathematics Assessment.

What is the greatest even number less than 20?

2005-4-12-9

Source: National Assessment of Educational Progress, 2005, Grade 4 Mathematics Assessment.

Which of the following is an even number?

A. 225
B. 233
C. 370
D. 391

1990-4-7-12

Source: National Assessment of Educational Progress, 1990, Grade 4 Mathematics Assessment.

Which of these numbers is an odd number?

A. 6
B. 52
C. 111
D. 320
E. 536

2008-13-21-1

Source: National Assessment of Educational Progress, 2008, Age 13 Mathematics Assessment.

Which one of these numbers is an even number?

A. 5
B. 14
C. 29
D. 31
E. 127

2004-13-23-1

Source: National Assessment of Educational Progress, 2004, Age 13 Mathematics Assessment.

2.OA.4 Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; write an equation to express the total as a sum of equal addends.