NAEP Released Items Aligned to the Iowa Core

5.OA.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

$24 \div (6 \div 2) =$

A. 8
B. 6
C. 3
D. 2

2005-4-12-3

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

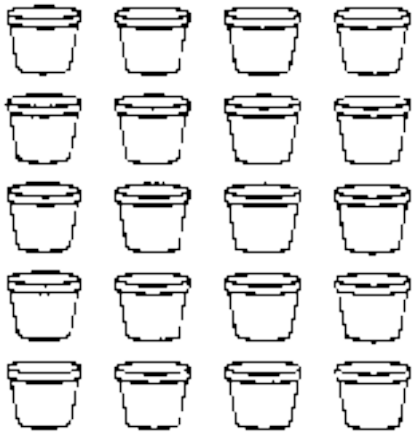
$(150 \div 3) + (6 \times 2) =$

A. 10
B. 58
C. 62
D. 112
E. 100

1990-8-9-1

Source: National Assessment of Educational Progress, 1990, Grade 8 Mathematics Assessment.

5.OA.2 Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them. For example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.



The picture shows the flowerpots in which Kevin will plant flower seeds. He needs 3 seeds for each pot. Which of the following number sentences shows how many seeds Kevin will need for all of the pots?

A. 5 x 4 x 3 =
B. (5 x 4) + 3 =
C. (5 + 4) x 3 =
D. 5 + 4 + 3 =

1996-4-9-5

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

On a flight from Los Angeles to New York, the cost of a fare was $400. Every seat was sold. What additional information do you need to find the total for all fares?

A. None
B. The number of employees on the plane
C. The number of passenger seats on the plane
D. The distance from Los Angeles to New York

1990-4-9-9

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

5.OA.3 Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns, and graph the ordered pairs on a coordinate plane. For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.

42, 51, 49, 58, 56, . .

If the pattern in the list above continues, what will be the next number after 56?

A. 54
B. 63
C. 64
D. 65
E. 67

1992-8-12-2
1992-12-12-2

Source: National Assessment of Educational Progress, 1992, Grade 8 and Grade 12 Mathematics Assessments.

1, 9, 25, 49, 81, ...

The same rule is applied to each number in the pattern above. What is the 6th number in the pattern?

A. 40
B. 100
C. 121
D. 144
E. 169

2005-8-12-13

Source: National Assessment of Educational Progress, 2005, Grade 8 Mathematics Assessment.

Term	1	2	3	4
Fraction	1/2	2/3	3/4	4/5

If the list of fractions above continues in the same pattern, which term will be equal to 0.95?

A. The 100th
B. The 95th
C. The 20th
D. The 19th
E. The 15th

2003-8-7-12

Source: National Assessment of Educational Progress, 2003, Grade 8 Mathematics Assessment.

From any vertex of a 4-sided polygon, 1 diagonal can be drawn.
From any vertex of a 5-sided polygon, 2 diagonals can be drawn.
From any vertex of a 6-sided polygon, 3 diagonals can be drawn.
From any vertex of a 7-sided polygon, 4 diagonals can be drawn.

How many diagonals can be drawn from any vertex of a 20-sided polygon?

1996-8-3-10

Source: National Assessment of Educational Progress, 1996, Grade 8 Mathematics Assessment.

A	B
2	5
4	9
6	13
8	17
14	?

If the pattern shown in the table were continued, what number would appear in the box at the bottom of column B next to 14?

A. 19
B. 21
C. 23
D. 25
E. 29

1992-8-15-13

Source: National Assessment of Educational Progress, 1992, Grade 8 Mathematics Assessment.

The first four terms in a sequence are shown below.

40, 8, 24, 16, …

Each term after the first two terms is found by taking one-half the sum of the two preceding terms. Which term is the first odd number in this sequence?

A. The 5th term
B. The 6th term
C. The 7th term
D. The 8th term
E. The 9th term

2009-12-7-8

Source: National Assessment of Educational Progress, 2009, Grade 12 Mathematics Assessment.