| Task Model 1a

Response Type: Multiple Choice, single correct response

DOK Level 1

5.OA.A.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.*

Evidence Required:
1. The student writes or identifies a numerical expression that records a calculation represented with words.

Tools: None

Version 3 update: Revised example stem TM1a from an equation/numeric to a multiple choice response type because the response type for this task model presented both authoring and scoring challenges during initial field-testing. Retired TM1b for the same reason as stated above. | **Prompt Features:** The student is prompted to select a numerical expression, which includes up to one set of non-nested grouping symbols, that represents a calculation expressed with words.

Stimulus Guidelines:
• Expressions use whole numbers.
• Expressions may include up to 4-digit dividends and 2-digit divisors for division.
• Expressions may include single- or multi-digit numbers for addition, subtraction, and multiplication.
• Item difficulty may be adjusted via this example method:
  ○ Expression does or does not contain grouping symbols. (Expression may include up to one set of grouping symbols.)

TM1a
Stimulus: The student is presented with a verbal expression that represents a calculation with up to one set of grouping symbols.

Example Stem: Which expression correctly shows "12 times the sum of 5 and 7"?

    A. $12 \times 5 + 7$
    B. $5 + 7 \times 12$
    C. $12 \times (5 + 7)$
    D. $5 + (7 \times 12)$

Rubric: (1 point) The student selects the correct expression (e.g., C).

Response Type: Multiple Choice, single correct response |

Task Model 1c
 	
Response Type: Multiple Choice, single correct response
 	
DOK Level 1
 	
5.OA.A.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.*
 	
Evidence Required:
1. The student writes or identifies a numerical expression that records a calculation represented with words.
 	
Tools: None
	Prompt Features: The student is prompted to select a numerical expression, which includes two sets of non-nested grouping symbols, that represents a calculation expressed with words.
	
	Stimulus Guidelines:
	• Expressions may include up to 4-digit dividends and 2-digit divisors for division.
	• Expressions may include single- or multi-digit numbers for addition, subtraction, and multiplication.
	• Item difficulty may be adjusted via these example methods:
	   ○ Expression contains one or two operations outside the grouping symbols.
	   ○ Expression contains whole numbers, fractions, or decimals.
	      ▪ Fractions must have a denominator of 2, 3, 4, 5, 6, 8, 10, 12, or 100.
	      ▪ Addition and subtraction of fractions may include mixed numbers and fractions without common denominators.
	      ▪ Division of fractions is limited to whole number by unit fraction or unit fraction by whole number.
	      ▪ Decimal numbers are limited to the hundredths place.
	      ▪ Multiplication of decimal numbers is limited to tenths by hundredths.
	      ▪ Division of decimal numbers is limited to the factors described for the multiplication of decimals above.
	
	TM1c
	Stimulus: The student is presented with a verbal expression that represents a calculation with two non-nested sets of grouping symbols.
	
	Example Stem: Which expression correctly shows the difference between the product of 7 and 9 and the sum of 12 and 5?
	
	    A. $7 \times (9 - 12) + 5$
	    B. $7 \times (9 + 12) + 5$
	    C. $(7 \times 9) - (12 + 5)$
	    D. $(7 + 9) + (12 + 5)$
	
	Rubric: (1 point) The student selects the correct expression (e.g., C).
	
	Response Type: Multiple Choice, single correct response

Task Model 2	**Prompt Features:** The student is prompted to interpret a numerical expression without evaluating it.
Response Type: Multiple Choice, single correct response	**Stimulus Guidelines:**
DOK Level 2	• Expressions may include up to 4-digit dividends and 2-digit divisors for division.
	• Expressions may include single- or multi-digit numbers for addition, subtraction, and multiplication.
5.OA.A.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.*	• Item difficulty may be adjusted via these example methods: ○ Expression contains zero, one, or two non-nested sets of grouping symbols. ○ Expression contains one or two operations outside the grouping symbols. ○ Expression contains whole numbers, fractions, or decimals. ▪ Fractions must have a denominator of 2, 3, 4, 5, 6, 8, 10, 12, or 100. ▪ Addition and subtraction of fractions may include mixed numbers and fractions without common denominators. ▪ Division of fractions is limited to whole number by unit fraction or unit fraction by whole number. ▪ Decimal numbers are limited to the hundredths place. ▪ Multiplication of decimal numbers is limited to tenths by hundredths. ▪ Division of decimal numbers is limited to the factors described for the multiplication of decimals above.
Evidence Required: 2. The student interprets numerical expressions in words without evaluating them.	

Tools: None	**TM2**
	 Stimulus: The student is presented with a numerical expression.
	
	 Example Stem: Which statement describes the value of the expression 4 × (18,932 + 921)?
	
	     A. The value is 921 more than the product of 4 and 18,932.
	     B. The value is 18,932 more than the product of 4 and 921.
	     C. The value is 4 times as large as the sum of 18,932 and 921.
	     D. The value is 4 times as large as the product of 18,932 and 921.
	
	 Rubric: (1 point) The student selects the correct interpretation of the expression (e.g., C).
	
	 Response Type: Multiple Choice, single correct response

Task Model 3a	**Prompt Features:** The student is prompted to evaluate numerical expressions that contain non-nested grouping symbols.
Response Type: Equation/Numeric	
DOK Level 1	**Stimulus Guidelines:** The student is presented with a numerical expression that contains one or two non-nested sets of grouping symbols.

5.OA.A.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	• Expressions may include up to 4-digit dividends and 2-digit divisors for division.
	 • Expressions may include single- or multi-digit numbers for addition, subtraction, and multiplication.
	 • Item difficulty may be adjusted via these example methods:
	     o Expression contains one or two sets of grouping symbols.
	     o Expression contains one or two operations outside the grouping symbols.
	     o Expression contains whole numbers, fractions, or decimals.

Evidence Required: 3. The student evaluates numerical expressions with grouping symbols.	▪ Fractions must have a denominator of 2, 3, 4, 5, 6, 8, 10, 12, or 100. ▪ Addition and subtraction of fractions may include mixed numbers and fractions without common denominators. ▪ Division of fractions is limited to whole number by unit fraction or unit fraction by whole number.
Tools: None	▪ Decimal numbers are limited to the hundredths place. ▪ Multiplication of decimal numbers is limited to tenths by hundredths. ▪ Division of decimal numbers is limited to the factors described for the multiplication of decimals above.
	TM3a **Stimulus:** The student is presented with a numerical expression that contains one set of grouping symbols. **Example Stem 1:** Enter the value of $7 + (5 \times 12)$. **Example Stem 2:** Enter the value of $7 + (5 \times 12) - 4$. **Rubric:** (1 point) The student enters the correct value (e.g., 67; 63). **Response Type:** Equation/Numeric

Task Model 3b	TM3b
Response Type: **Equation/Numeric**	**Stimulus:** The student is presented with a numerical expression that contains two non-nested sets of grouping symbols.
DOK Level 1	**Example Stem 1:** Enter the value of $(5 \times 12) + (27 \div 9)$.
5.OA.A.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	**Example Stem 2:** Enter the exact value of $(6 \times \frac{2}{3}) + (\frac{2}{8} + \frac{3}{8})$. **Example Stem 3:** Enter the exact value of $(2 \div 0.1) - (0.3 \times 0.4)$.
Evidence Required: 3. The student evaluates numerical expressions with grouping symbols.	**Rubric:** (1 point) The student enters the correct value (e.g., 63; $4\frac{5}{8}$ or equivalent; 19.88). **Response Type:** Equation/Numeric
Tools: None	

Task Model 3c	TM3c
Response Type: Multiple choice, single correct response	**Stimulus:** The student is presented with a numerical expression that does not contain non-nested sets of grouping symbols and is prompted to identify the correct placement of parentheses to equal a specific value.
DOK Level 1	**Example Stem:** Taryn must place parentheses around numbers in this expression in order to make it equal 2.
5.OA.A.1 Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.	$30 \div 2 + 4 - 3$ Which expression equals 2? A. $30 \div (2 + 4 - 3)$ B. $30 \div (2 + 4) - 3$ C. $30 \div 2 + (4 - 3)$ D. $(30 \div 2) + 4 - 3$
Evidence Required: 3. The student evaluates numerical expressions with grouping symbols.	**Rubric:** (1 point) The student identifies the correct placement of parentheses (e.g., B).
Tools: None	**Response Type:** Multiple choice, single correct response
Version 3 update: Added new TM3c.	