## SECURE MATERIAL - Reader Name:

$\qquad$
Tennessee Comprehensive Assessment Program

## TCAP/CRA

## 2014



1

## Phase III <br> Tomatoes Task <br> Anchor Set

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## Part 2: Constructed Response Task Section

## Tomatoes Task

Jack has 19 tomatoes on the table.
Then he puts 12 of those tomatoes into a basket. Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.


## Grade 1 - 2013-14, Phase III

## Part 2: Constructed Response Task Section

## Tomatoes Task

b. Circle the two equations below that can be used to solve the tomato story problem.

$$
19-12=\ldots \quad 19+12=\ldots \quad 12+\ldots=19
$$

c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.


## Part 2: Constructed Response Task Section

## Tomatoes Task

Jake solves another problem, 13-6, by using addition.

| $13-6=$ | $6+\underline{7}=13$, so $13-6=\underline{7}$ |
| :--- | :--- |

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.


$$
18-11=
$$

$\qquad$

## Scoring Guide

## The CCSS for Mathematical Content (2 points)

1.OA.A. 1 Solves "take apart" situational problem with an unknown addend in part a. (1 Point)
1.OA.B. 4 Uses the relationship between subtraction and an unknown addend problem to identify $19-12=$ $\qquad$ and $12+$ $\qquad$ $=19$. Student may do this by:

- in part b, stating or showing 19 take away 12 is 7 , and 12 plus 7 is 19 ; or
- stating that the number of tomatoes left on the table can be found by subtracting 12 from 19 , or finding the number that can be added to 12 to make 19.
(1 Point)


## The CCSS for Mathematical Practice (3 points)

MP4 Creates a diagram that models the story problem.
(1 Point)
(MP4: Model with mathematics.)
MP6 Has accurate calculation for subtraction equations in part d.
(1 Point)
(MP6 Attend to precision.)
MP7 Uses the structure of the relationship between addition and subtraction to write subtraction equations as addition equations in part d (addition equations may show a missing addend).
*Calculation errors may exist.
(1 Point)
(MP7: Look for and make use of structure.)

## The CCSS for Mathematical Content Addressed In This Task

## Represent and solve problems involving addition and subtraction.

| 1.OA.A.1 | Use addition and subtraction within 20 to solve word problems involving situations of <br> adding to, taking from, putting together, taking apart, and comparing, with unknowns <br> in all positions, e.g., by using objects, drawings, and equations with a symbol for the <br> unknown number to represent the problem. |
| :--- | :--- |
| Understand and apply properties of operations and the relationship between addition and <br> subtraction. |  |
| 1.OA.B.4 | Understand subtraction as an unknown-addend problem. (For example, subtract 10 <br> -8 by finding the number that makes 10 when added to 8.) |

The CCSS for Mathematical Practice Addressed in This Task

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.

A-1a

## Tomatoes Task

Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket.
Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.


$$
1^{\prime \prime \prime}-1^{\prime \prime}=\ddot{v}
$$

b. Circle the two equations below that can be used to solve the tomato story problem.

c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.


## Tomatoes Task

$\therefore$ Jake solves another problem, 13-6, by using addition.

$$
13-6=7 \quad 6+7=134
$$

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.

$$
\begin{aligned}
& 20-17=\frac{3}{17+3=20}
\end{aligned}
$$



$$
\begin{aligned}
& 18-11=\frac{7}{1+7}=18
\end{aligned}
$$

Anchor 1

Total Content Points: 2
Total Practice Points: 3
In Part A, the student solves the "take apart" situational problem with an unknown addend, showing 7 as the answer (1.OA.A.1). In Part C, the student's response ("Because $19-12=7$ so $12+7=19$ ") uses the relationship between subtraction and an unknown addend problem to identify that 19 with 12 taken away is 7 , so 12 plus 7 is 19 (1.OA.B.4). The student uses 10 rods and ones and a box depicting 12 and 7 as parts of the total of 19 to create two diagrams in Part A that model the situational problem of 19 tomatoes minus 12 tomatoes equaling 7 tomatoes (MP4). In Part D, the student accurately solves the subtraction equations, showing 3 and 7 as the answers (MP6). The student also writes the subtraction equations as related addition equations in Part D $(17+3=20,11+7=18)($ MP7 $)$.

Total Awarded Points: 5 out of 5

## Tomatoes Task

Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket.
Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.

| $19-12=7$ |  |
| :---: | :---: |
|  | $x+x+x+x+x+x+1111111$ |

b. Circle the two equations below that can be used to solve the tomato story problem.

c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.


## Tomatoes Task

Jake solves another problem, $13-6$, by using addition.

$$
13-6=\quad 6+\underline{7}=13, \text { so } 13-6=7
$$

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.

$$
\begin{gathered}
20-17=3 \\
17+\overbrace{17}^{3}=20
\end{gathered}
$$

| $\quad$$18-11=\frac{7}{7}$ <br> $11+\frac{7}{2}$ <br> $\mathrm{mam}_{18}$ |
| :---: |
| 18 |

Anchor 2

Total Content Points: 1

Total Practice Points: 3

In Part A, the student solves the "take apart" situational problem with an unknown addend, showing 7 as the answer (1.OA.A.1). In Part C, the student's explanation $(12+7=19)$ does not use the relationship between subtraction and an unknown addend problem, failing to identify that 19 with 12 taken away is 7 and therefore 12 plus 7 is 19 (no credit for 1.OA.B.4). The student creates a diagram in Part A that models the situational problem by using 19 lines with 12 crossed out to show 7 remaining (MP4). In Part D, the student accurately solves the subtraction equations, showing 3 and 7 as the answers (MP6). The student also writes the subtraction equations as addition equations in Part $\mathrm{D}(17+3=20,11+7=18)$ (MP7).

Total Awarded Points: 4 out of 5

## Tomatoes Task

Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket.
Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.

b. Circle the two equations below that can be used to solve the tomato story problem.

c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.
s They area Math faimly.

## Tomatoes Task

Jake solves another problem, 13-6, by using addition.

$$
13-6=7 \quad 6+\underline{7}=13, \text { so } 13-6=\underline{7}
$$

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.

$$
20-17=03
$$

$$
\begin{array}{r}
17 \\
+3 \\
\hline 20
\end{array}
$$



Anchor 3

Total Content Points: 1

Total Practice Points: 3
(1.OA.A1)
(MP4, MP6, MP7)

In Part A, the student solves the "take apart" situational problem with an unknown addend, showing 7 as the answer (1.OA.A.1). In Part C, the student's response ("They are a math faimly") does not use the relationship between subtraction and an unknown addend problem, and therefore fails to identify that 19 with 12 taken away is 7 , so 12 plus 7 is 19 (no credit for 1.OA.B.4). The student creates a part-part-whole diagram in Part A, which depicts 12 and 7 as parts of the total of 19 , that models the situational problem of 19 tomatoes with 12 taken away equaling 7 tomatoes (MP4). In Part D, the student accurately solves the subtraction equations, showing 3 and 7 as the answers (MP6). The student also writes the subtraction equations as addition equations in Part D (MP7).

Total Awarded Points: 4 out of 5

## Tomatoes Task

Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket.
Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.

b. Circle the two equations below that can be used to solve the tomato story problem.
$19-12=$

$19+12=$ $\qquad$
$12+\ldots=19$
c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.


## Tomatoes Task

Jake solves another problem, 13-6, by using addition.

$$
13-6=\quad 6+\underline{7}=13, \text { so } 13-6=7
$$

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.

$$
20-17=3,50, N A+3=10
$$



$$
18-11=6
$$

## Total Content Points: 1 <br> (1.OA.A1)

Total Practice Points: 2 (MP4, MP7)
In Part A, the student solves the "take apart" situational problem with an unknown addend, showing 7 as the answer (1.OA.A.1). In Part C, the student's response (" $19-12$ can help you because it will tell you the answear. $12+6$ is one way to solv the proble") does not use the relationship between subtraction and an unknown addend problem to identify how to solve the tomato story problem (no credit for 1.OA.B.4). The student creates a diagram in Part A showing 19 circles with 12 crossed out and 7 left, which models the situational problem of 19 tomatoes with 12 taken away equaling 7 tomatoes (MP4). In Part D, the student does not solve both subtraction equations accurately (no credit for MP6). The student also writes subtraction equations as addition equations in Part $\mathrm{D}(17+3=20$ and $11+6=18)$, with an allowable calculation error in the second equation (MP7).

Total Awarded Points: 3 out of 5

## Tomatoes Task

Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket.
Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.
$19-12-7$
$6 \phi \phi \phi \phi \phi \phi \phi \phi \phi \phi 0000000$
b. Circle the two equations below that can be used to solve the tomato story problem.

$19+12=$ $\qquad$ $12+$ $\qquad$ $=19$
c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.


## Tomatoes Task

Jake solves another problem, 13-6, by using addition.

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.


Anchor 5
Litho 00131200176

Total Content Points: 1 (1.OA.A1)
Total Practice Points: 2 (MP4, MP6)

In Part A, the student solves the "take apart" situational problem with an unknown addend, showing 7 as the answer (1.OA.A.1). In Part C, the student's response ("Jack has 19 tomatoes and 12 las and he puts it basket") does not use the relationship between subtraction and an unknown addend problem to identify that 19 with 12 taken away is 7 , making 12 plus 7 equal 19 (no credit for 1.OA.B.4). The student creates a diagram in Part A showing 19 circles with 12 crossed out and 7 left in order to model the situational problem of 19 tomatoes with 12 tomatoes taken away equaling 7 tomatoes (MP4). In Part D, the student accurately solves the subtraction equations, showing 3 and 7 as the answers (MP6). The student writes one subtraction equation as an addition equation in Part $\mathrm{D}(17+3=20)$, but fails to properly create the second equation. A calculation error $(11+7=8)$ exists, so that the addition equation does not match the subtraction equation given (no credit for MP7).

Total Awarded Points: 3 out of 5

## Tomatoes Task

## Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket. <br> Jack wants to know how many tomatoes are now on the table.

a. Solve this story problem. Draw a diagram to show how you found th answer.

b. Circle the two equations below that can be used to solve the tomat story problem.

$12+\ldots=19$
c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.

$$
\rightarrow \text { well } 19-12=7 \quad 19+12=31 \text {. }
$$

Tomatoes Task
Jake solves another problem, 13-6, by using addition.

$$
13-6=7 \quad 6+7=13 \text {, so } 13-6=7
$$

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.

$$
20-17=3+17+3]
$$



## Total Content Points: 1 (1.OA.A1)

Total Practice Points: 1 (MP6)
In Part A, the student solves the "take apart" situational problem with an unknown addend, showing 7 as the answer (1.OA.A.1). In Part C, the student's response ("Well 19-12 = 7; $19+12=31$ ") does not use the relationship between subtraction and an unknown addend problem, and therefore fails to identify that 19 with 12 taken away is 7 , so 12 plus 7 is 19 (no credit for 1.OA.B.4). The student does not create a successful part-part-whole diagram in Part A, as neither the box nor line diagrams shown depict 12 and 7 as parts of the total of 19. Instead, the student implies that 12 and 19 are parts of 7 (no credit for MP4). In Part D, the student accurately solves the subtraction equations, showing 3 and 7 as the answers (MP6). However, the student does not show subtraction equations written accurately as addition equations (no credit for MP7).

Total Awarded Points: 2 out of 5

## Tomatoes Task

Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket.
Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.

b. Circle the two equations below that can be used to solve the tomato story problem.

c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.

arethe Write equations:

## Tomatoes Task

Jake solves another problem, 13-6, by using addition.

$$
13-6=\quad 6+\underline{7}=13, \text { so } 13-6=\underline{7}
$$

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.


Anchor 7
Litho 00411200172

Total Content Points: 1 (1.OA.A1)
Total Practice Points: 1 (MP6)
In Part A, the student solves the "take apart" situational problem with an unknown addend, showing 7 as the answer (1.OA.A.1). In Part C, the student's response ("Theses are ones that are the write equations") does not use the relationship between subtraction and an unknown addend problem, and therefore fails to identify that 19 with 12 taken away is 7 , so 12 plus 7 is 19 (no credit for 1.OA.B.4). The student does not create a diagram that models the situational problem in Part A, only showing a ten rod and ten ones (no credit for MP4). In Part D, the student accurately solves the subtraction equations, showing 3 and 7 as the answers (MP6). The student shows one correct and one incorrect addition equation for each subtraction equation in Part D, and does not clearly identify which addition equations can be substituted for the subtraction equations (no credit for MP7).

Total Awarded Points: 2 out of 5

## Tomatoes Task

Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket.
Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.

b. Circle the two equations below that can be used to solve the tomato story problem.

c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.


## tomatoes rask

Jake solves another problem, 13-6, by using addition.

$$
13-6=\quad \quad 6+7=13, \text { so } 13-6=7
$$

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.


Anchor 8

Total Content Points: 1

Total Practice Points: 1
(MP4)

In Part A, the student solves the "take apart" situational problem with an unknown addend, showing 7 as the answer (1.OA.A.1). In Part C, the student's response ("becase they both have a sudtraction") does not use the relationship between subtraction and an unknown addend problem, and therefore fails to identify that 19 with 12 taken away is 7 , so 12 plus 7 is 19 (no credit for 1.OA.B.4). The student creates a diagram in Part A showing 19 circles with 12 crossed out and 7 left in order to model the situational problem of 19 tomatoes with 12 tomatoes taken equaling 7 tomatoes (MP4). In Part D, the student does not accurately solve the subtraction equations (no credit for MP6). The student also does not rewrite the subtraction equations as appropriate addition equations in Part D (no credit for MP7).

Total Awarded Points: 2 out of 5

## Tomatoes Task

Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket.
Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.

| S | 19 <br> $\frac{12}{8}$ <br>  |
| :---: | :---: |

b. Circle the two equations below that can be used to solve the tomato story problem.

c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.


Tomatoes Task
Jake solves another problem, 13-6, by using addition.

$$
13-6=7 \quad 6+7=13, \text { so } 13-6=7
$$

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.


Anchor 9 Litho 00891200176

## Total Content Points: 0

## Total Practice Points: 1 (MP6)

In Part A, the student does not accurately solve the "take apart" situational problem with an unknown addend, and fails to show 7 as the answer (no credit for 1.OA.A.1). In Part C, the student does not use the relationship between subtraction and an unknown addend problem, and therefore fails to identify that 19 with 12 taken away is 7 , so 12 plus 7 is 19 (no credit for 1.OA.B.4). The student creates a diagram in Part A of 19 marks and shows 11 being removed and 8 remaining. This is not an accurate diagram to model the situational problem of 19 tomatoes with 12 tomatoes taken away equaling 7 tomatoes (no credit for MP4). In Part D, the student accurately solves the subtraction equations, showing 3 and 7 as the answers (MP6). The student does not write the subtraction equations as addition equations in Part D (no credit for MP7).

Total Awarded Points: 1 out of 5

## Tomatoes Task

Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket.
Jack wants to know how many tomatoes are now on the table.
a. Solve this story problem. Draw a diagram to show how you found the answer.

b. Circle the two equations below that can be used to solve the tomato


$$
19+12=
$$


c. Explaininwords how the two circled equations can-be-used-tosolve for the tomatoes that are left on the table.


## Tomatoes Task

Jake solves another problem, $1 \overline{3}-6$, by using addition.

| $13-6=7$ | $6+\underline{7}=13$, so $13-6=\underline{7}$ |
| :--- | :--- |

d. Solve these subtraction equations by writing and solving addition equations. Write the answers to the subtraction equations on the lines.

$$
\begin{array}{rr}
20 & 20-17=17 \\
+17 \\
\hline 37 & -17 \\
17
\end{array}
$$



Total Practice Points: 0

In Part A, the student solves the "take apart" situational problem with an unknown addend, showing 7 as the answer (1.OA.A.1). In Part C, the student's response ("I got my anser; the anser is seven") does not use the relationship between subtraction and an unknown addend problem, and therefore fails to identify that 19 with 12 taken away is 7 , so 12 plus 7 is 19 (no credit for 1.OA.B.4). The student does not create a diagram in Part A that models the situational problem of 19 tomatoes with 12 tomatoes taken away equals 7 tomatoes (no credit for MP4). In Part D, the student only accurately solves one of the subtraction equations. The student shows 7 as the answer to the second equation, but incorrectly gives an answer of 17 for the first (no credit for MP6). The student also does not write the subtraction equations as accurate addition equations in Part D (no credit for MP7).

Total Awarded Points: 1 out of 5

## Tomatoes Task

## Jack has 19 tomatoes on the table. Then he puts 12 of those tomatoes into a basket. <br> Jack wants to know how many tomatoes are now on the table.

a. Solve this story problem. Draw a diagram to show how you found the answer.

$$
\begin{array}{r}
300000000000000
\end{array}
$$

b. Circle the two equations below that can be used to solve the tomato story problem.

$$
19-12=O 7 \quad 19+12=\frac{3}{S} \quad 12+\frac{7}{}=19
$$


c. Explain in words how the two circled equations can be used to solve for the tomatoes that are left on the table.


## Tomatoes Task

Jake solves another problem, 13-6, by using addition.

$$
13-6=19 \quad 6+\underline{7}=13, \text { so } 13-6=7
$$

d. Solve these subtraction equations by writing and solving addition.. equations. Write the answers to the subtraction equations on the lines.


## Total Content Points: 0

Total Practice Points: 0
In Part A, the student does not solve the "take apart" situational problem with an unknown addend, and fails to show 7 as the answer (no credit for 1.OA.A.1). In Parts B and C, the student correctly solves the three shown equations; however, the student does not use the relationship between subtraction and an unknown addend problem, and therefore fails to identify that 19 with 12 taken away is 7 , so 12 plus 7 is 19 . Additionally, the student does not clearly indicate an understanding that the answers found relate to the problem situation (no credit for 1.OA.B.4). The student creates a diagram of 19 circles in Part A, but does not show 12 being removed, thus not modeling the situational problem of 19 tomatoes with 12 tomatoes taken away equaling 7 tomatoes (no credit for MP4). In Part D, the student does not accurately solve the subtraction equations (no credit for MP6). The student also does not write the subtraction equations as addition equations in Part D (no credit for MP7).

Total Awarded Points: 0 out of 5

