

SECURE MATERIAL – Reader Name: _____
Tennessee Comprehensive Assessment Program

TCAP/CRA

2014



1

Phase III

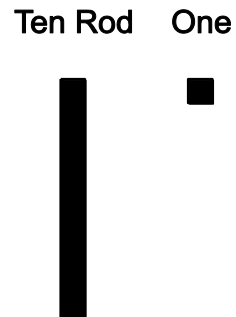
Place Value Strategy Task

Anchor Set

Copyright © 2014 by the University of Pittsburgh and published under contract with Tennessee State Department of Education by Measurement Incorporated, 423 Morris Street, Durham, North Carolina, 27701. Testing items licensed to the Tennessee State Department of Education. All rights reserved. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written permission of Tennessee Department of Education and the University of Pittsburgh.


Place Value Strategy Task

A ten rod and a one are shown.




Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.




$24 + 30 = \underline{\quad}$

- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.



$43 + 20 = \underline{\quad}$

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.



Scoring Guide

The CCSS for Mathematical Content (1 point)

- 1.NBT.C.4 Solves addition equations within 100. States the answers 54 and 63. _____
(1 Point)

The CCSS for Mathematical Practice (3 points)

- MP3 Constructs an explanation to tell how place value or ten rods and ones can be used to add two-digit numbers. Student may indicate this by _____
- stating that the tens are put together and then the ones added;
 - stating that 10s can be added on to 24 or 43;
 - stating that all the ten rods can be counted and the resulting number placed in the tens place, and all the ones can be counted and the resulting number placed in the ones place; or
 - stating that two and three were added to get five, and then adding four to get fifty-four.

(1 Point)

(MP3: Construct viable arguments and critique the reasoning of others.)

- MP4 Creates at least one diagram using ten rods and ones to model an addition equation. No incorrect diagrams are provided. _____

(1 Point)

(MP4: Model with mathematics.)

- MP6 Represents the numbers in two-digit addends and/or sums using precise reference to place value in the explanation. _____

(1 Point)

(MP6: Attend to precision.)

TOTAL POINTS: 4

The CCSS for Mathematical Content Addressed In This Task

Use place value understanding and properties of operations to add and subtract.	
1.NBT.C.4	Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

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.
8. Look for and express regularity in repeated reasoning.

Place Value Strategy Task

A ten rod and a one are shown.

Ten Rod One



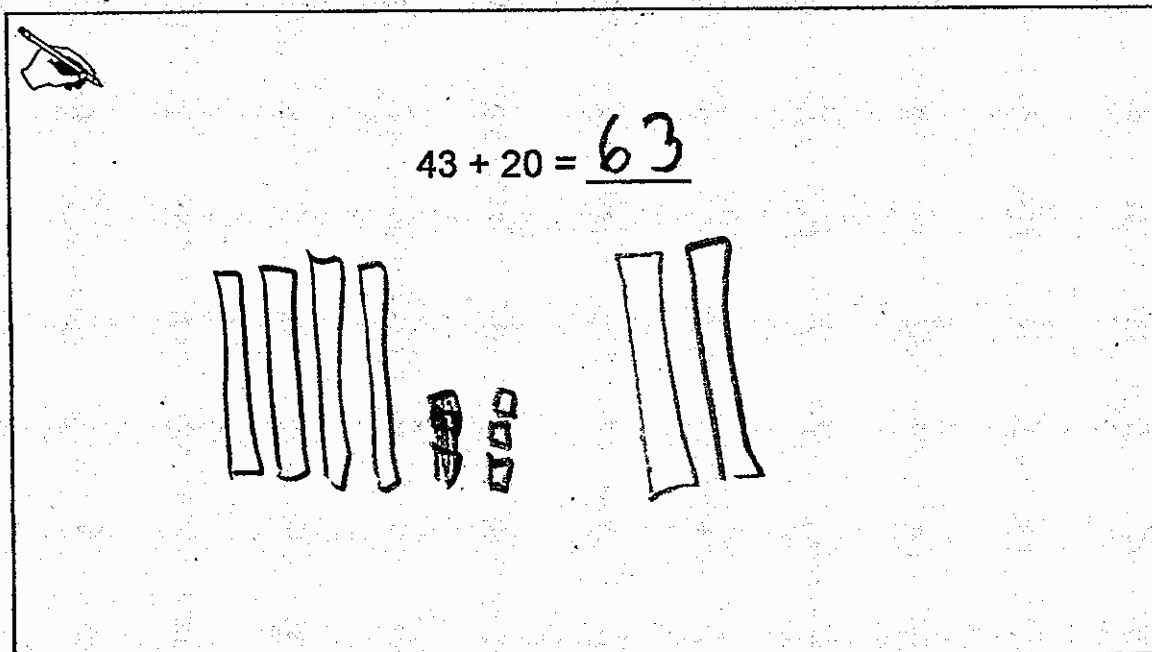
Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

$24 + 30 = \underline{54}$

Place Value Strategy Task

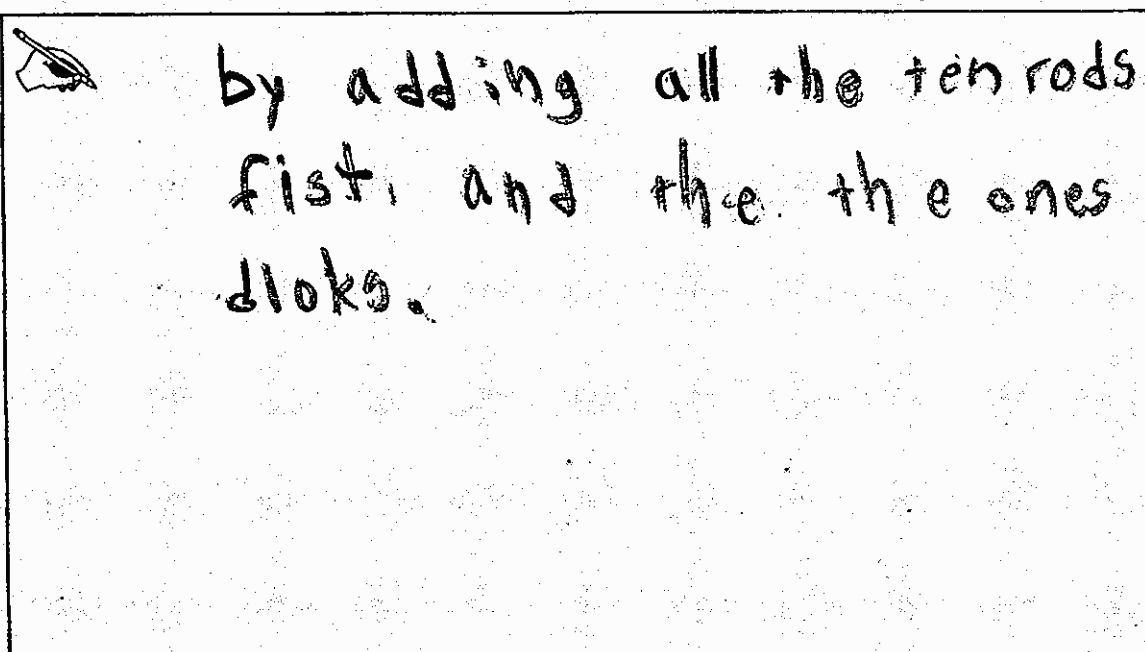
- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.



$43 + 20 = \underline{63}$

The diagram illustrates the addition of 43 and 20 using base ten blocks. On the left, there are 4 ten rods and 3 one blocks, representing 43. In the middle, there are 2 ten rods, representing 20. On the right, there are 6 ten rods, representing the sum 63.

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.



by adding all the ten rods first, and then the ones blocks.

Anchor 1 Litho 00521200179

Total Content Points: 1 (1.NBT.C.4)

Total Practice Points: 3 (MP3, MP4, MP6)

The student solves the addition equations in Part A and Part B and states the answers 54 and 63 (1.NBT.C.4). In Part C, the student constructs an explanation to tell how ten rods and ones can be used to add two-digit numbers by stating that the tens are put together and then the ones added (“by adding all the ten rods fist, and the the ones dloks”) (MP3). The student creates a diagram in Part A using ten rods and ones to model an addition equation. By not showing a plus sign, the diagram in Part B is incomplete, but not incorrect (MP4). In Part C, by using the terms “10 rods” and “ones”, the student uses precise reference to place value in the explanation (MP6).

Total Awarded Points: 4 out of 4

Place Value Strategy Task

A ten rod and a one are shown.

Ten Rod One



Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

The diagram shows a hand-drawn addition problem. On the left, there is a vertical line with a plus sign to its left. To the right of the vertical line, there are two groups of vertical lines: a group of two lines and a group of four lines. A horizontal line is drawn below these groups. Below the horizontal line, the number '54' is written. To the right of the diagram, the equation $24 + 30 = \underline{\hspace{2cm}}$ is written. In the top left corner of the box, there is a small drawing of a hand holding a pencil.

Place Value Strategy Task

- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

43 + 20 = _____

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.

I figured the answer out by taking 40 + 20 equals 60 and 3 more equals 63 and that's how I figured out the answer.

Anchor 2 Litho 00171200179

Total Content Points: 1 (1.NBT.C.4)

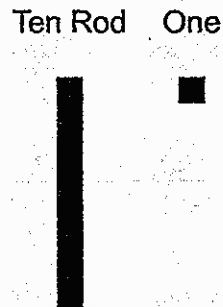
Total Practice Points: 2 (MP3, MP6)

The student solves the addition equations in Part A and Part B and states the answers 54 and 63 (1.NBT.C.4). In Part C, the student constructs an explanation to tell how place value can be used to add two-digit numbers by first putting together the tens then adding the ones (“by taking $40 + 20$ equals 60 and 3 more”) (MP3). Although the student creates a correct diagram in Part B using ten rods and ones to model an addition equation, the diagram in Part A is incorrect, showing $24 + 40$ (no credit for MP4). In Part C, the student precisely represents the numbers using place value in the explanation (MP6).

Total Awarded Points: 3 out of 4

Place Value Strategy Task

A ten rod and a one are shown.



Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

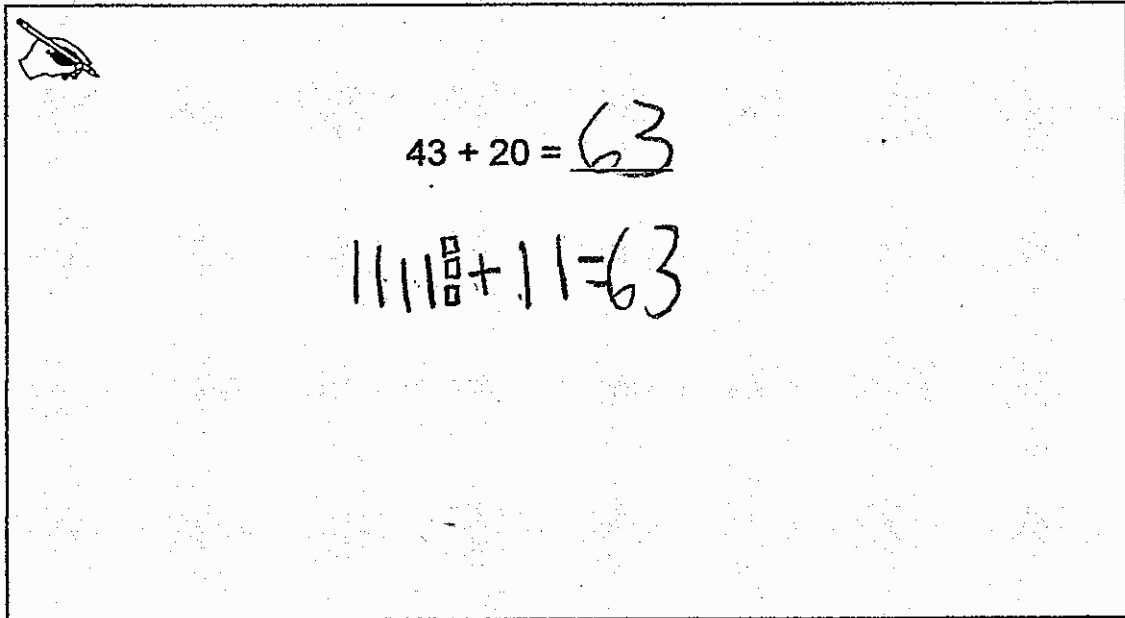
- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

$24 + 30 = 54$

$2 \text{ tens rods} + 4 \text{ ones} + 3 \text{ tens rods} = 5 \text{ tens rods} + 4 \text{ ones}$

Place Value Strategy Task

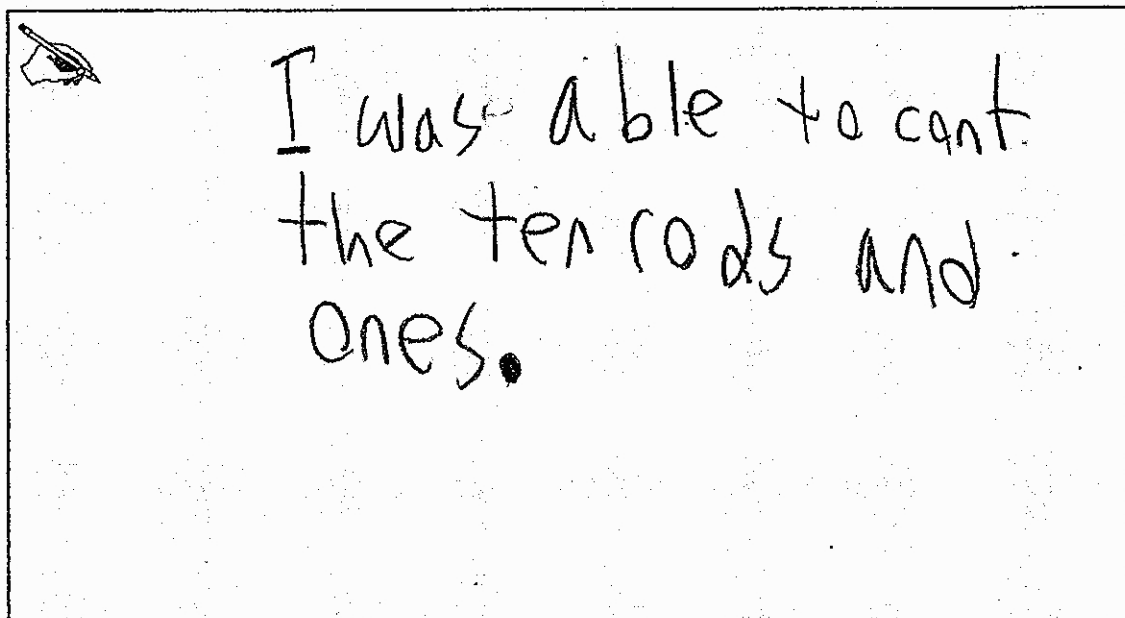
- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.



43 + 20 = 63

|||| $\begin{matrix} \square \\ \square \\ \square \\ \square \end{matrix}$ + || = 63

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.



I was able to count the ten rods and ones.

Anchor 3 Litho 00031200172

Total Content Points: 1 (1.NBT.C.4)

Total Practice Points: 2 (MP4, MP6)

The student solves the addition equations in Part A and Part B and states the answers 54 and 63 (1.NBT.C.4). In Part C, by only referring to counting the ten rods and ones without grouping them through place value in any clear way, the student does not construct an explanation to tell how ten rods and ones can be used to add two-digit numbers (no credit for MP3). The student creates correct diagrams in Part A and Part B, using ten rods and ones to model addition equations (MP4). In Part C, although the explanation was insufficient, by using the terms “10 rods” and “ones”, the student uses precise reference to place value in the explanation (MP6).

Total Awarded Points: 3 out of 4

Place Value Strategy Task

A ten rod and a one are shown.

Ten Rod One



Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

$$\begin{array}{r} 24 \\ + 30 \\ \hline 54 \end{array}$$

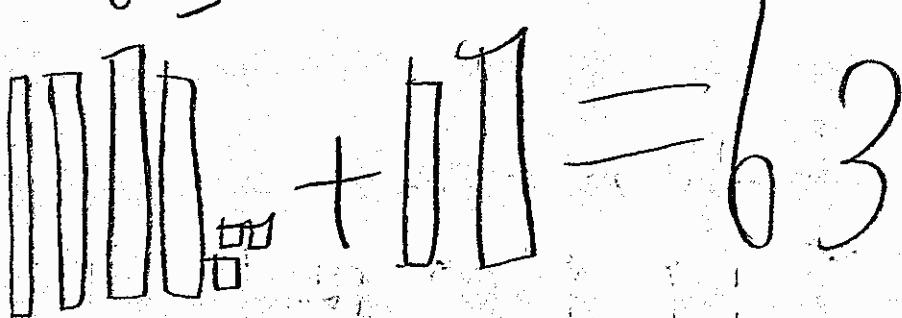
$$24 + 30 = 54$$

The diagram shows four ten rods (labeled '10') and four ones (small squares) representing the number 24. This is added to three ten rods representing the number 30. The result is five ten rods and four ones, representing the number 54.

Place Value Strategy Task

- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

$$\begin{array}{r} 43 \\ +20 \\ \hline 63 \end{array}$$
 $43 + 20 = 63$



- c. Explain how place value or the ten rods and the ones can be used to solve these equations.

You can use them because ten rods stands for 10, so you can count by 10's. And then you can count the blocks which stand for 1. So you can count easier.

Anchor 4 Litho 00651200172

Total Content Points: 1 (1.NBT.C.4)

Total Practice Points: 2 (MP3 MP6)

The student solves the addition equations in Part A and Part B and states the answers 54 and 63 (1.NBT.C.4). In Part C, the student constructs an explanation to tell how ten rods and ones can be used to add two-digit numbers, indicating grouping in that the tens are put together and then the ones added (“So you can count by 10’s. And then, you can count the 1 blocks”) (MP3). Although the student creates a correct diagram in Part B, using ten rods and ones to model an addition equation, the diagram in Part A is incorrect, showing $44 + 30$ (no credit for MP4). In Part C, by using the terms “10 rods” and “ones”, the student uses precise reference to place value in the explanation (MP6).

Total Awarded Points: 3 out of 4

Place Value Strategy Task

A ten rod and a one are shown.

Ten Rod One



Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

$24 + 30 = 54$
 I know
 that $2+3=5$
 and $4+0=4$
 so your
 answer
 would be 54.

Place Value Strategy Task

- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

$43 + 20 = \underline{63}$

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.

If your problem is $43 + 20$
you know that $4 + 2 = 6$ and
 $0 + 3 = 3$ your answer is 63.

Anchor 5 Litho 00781200176

Total Content Points: 1 (1.NBT.C.4)

Total Practice Points: 1 (MP3)

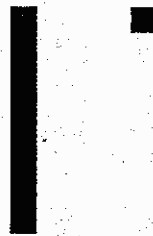
The student solves the addition equations in Part A and Part B and states the answers 54 and 63 (1.NBT.C.4). In Part C, by adding the tens ($4 + 2 = 6$) and adding the ones ($0 + 3 = 3$), and then combining the numbers using correct place value (“your answer is 63”), the student constructs an explanation to tell how place value can be used to add two-digit numbers (MP3). The student does not create diagrams that use ten rods and ones to model an addition equation in Part A or in Part B (no credit for MP4). In Part C, the student does not represent the numbers in two-digit addends and/or sums using precise reference to place value in the explanation (no credit for MP6).

Total Awarded Points: 2 out of 4

Place Value Strategy Task

A ten rod and a one are shown.

Ten Rod One



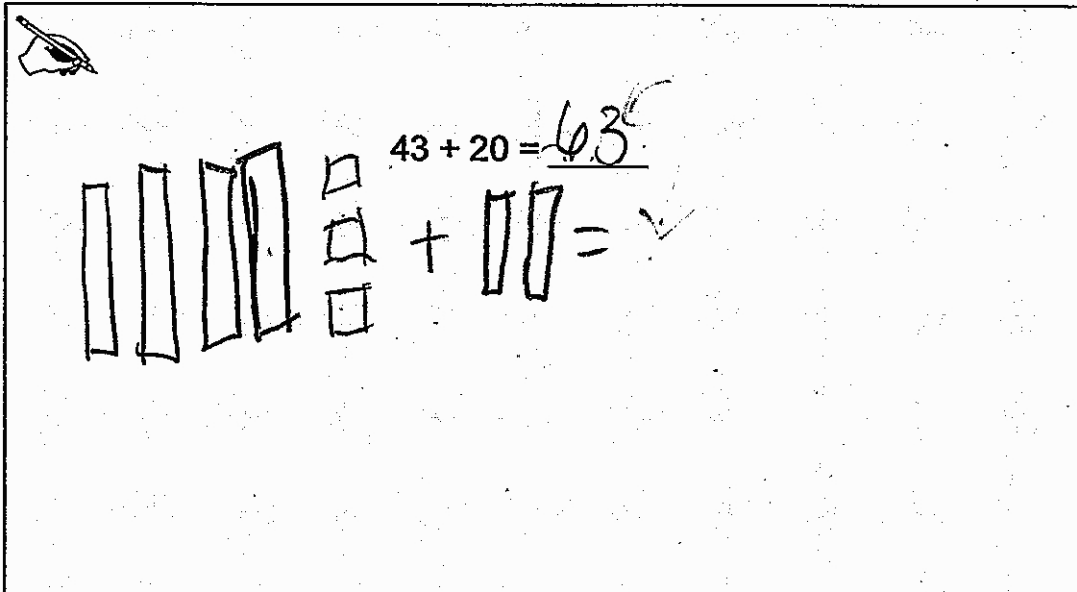
Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

$24 + 30 = 54$

Place Value Strategy Task

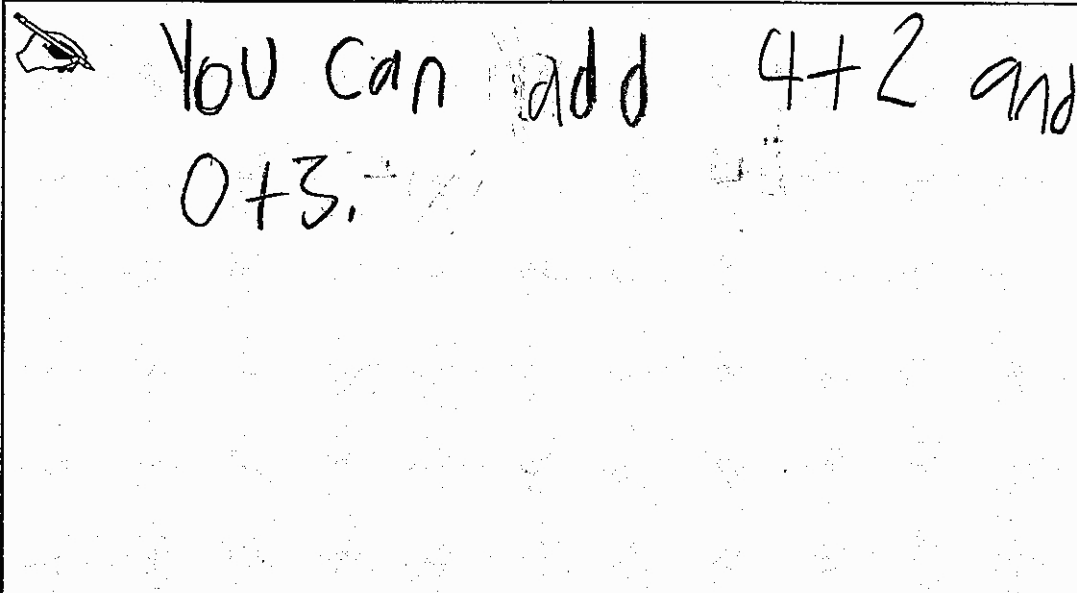
- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.



43 + 20 = 63

+ 20 = ✓

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.



You can add 4 + 2 and 0 + 3. ✓

Anchor 6

Litho 00381200176

Total Content Points: 1 (1.NBT.C.4)

Total Practice Points: 1 (MP4)

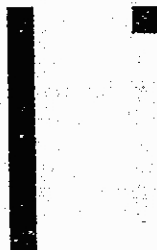
The student solves the addition equations in Part A and Part B and states the answers 54 and 63 (1.NBT.C.4). In Part C, by not referring to the numbers 4 and 2 as tens or the 3 as ones, nor showing a total of 63 after adding the $4 + 2$ and $0 + 3$, the student does not construct an explanation to tell how place value can be used to add two-digit numbers (no credit for MP3). The student creates correct diagrams in Part A and Part B using ten rods and ones to model the addition equations to be solved (MP4). In Part C, the student does not represent the numbers in two-digit addends and/or sums using precise reference to place value in the explanation (no credit for MP6).

Total Awarded Points: 2 out of 4

Place Value Strategy Task


A ten rod and a one are shown.

Ten Rod One



Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.



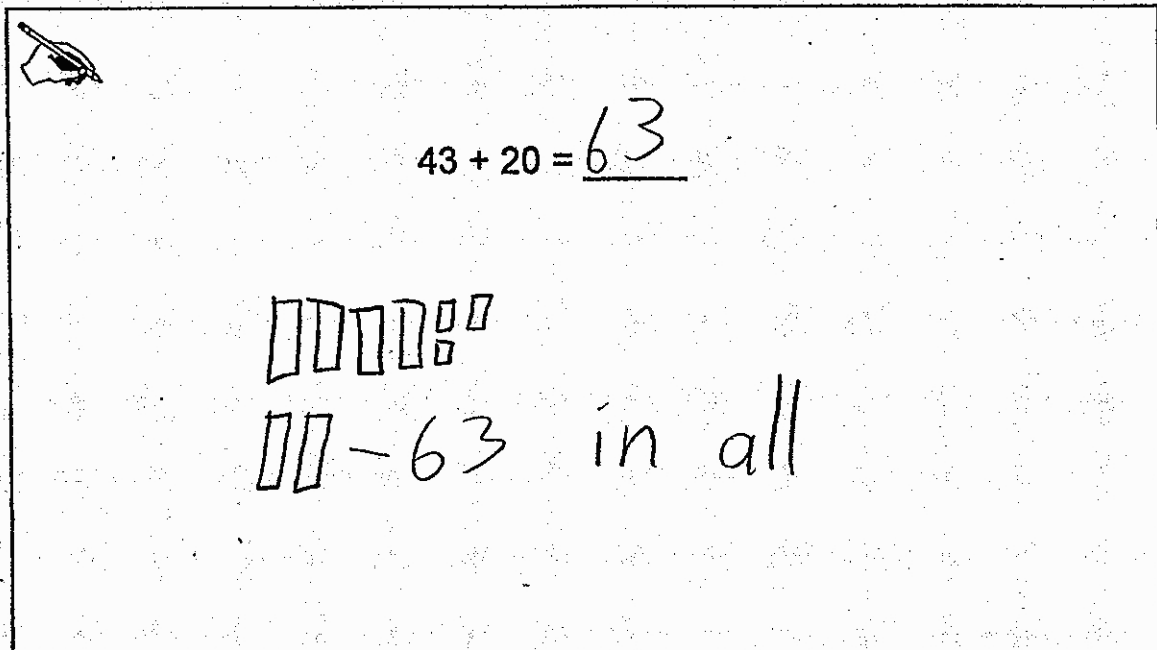
$$24 + 30 = \underline{59}$$

Two ten rods and four ones Three ten rods

Two ten rods and four ones - 59 in all

Place Value Strategy Task

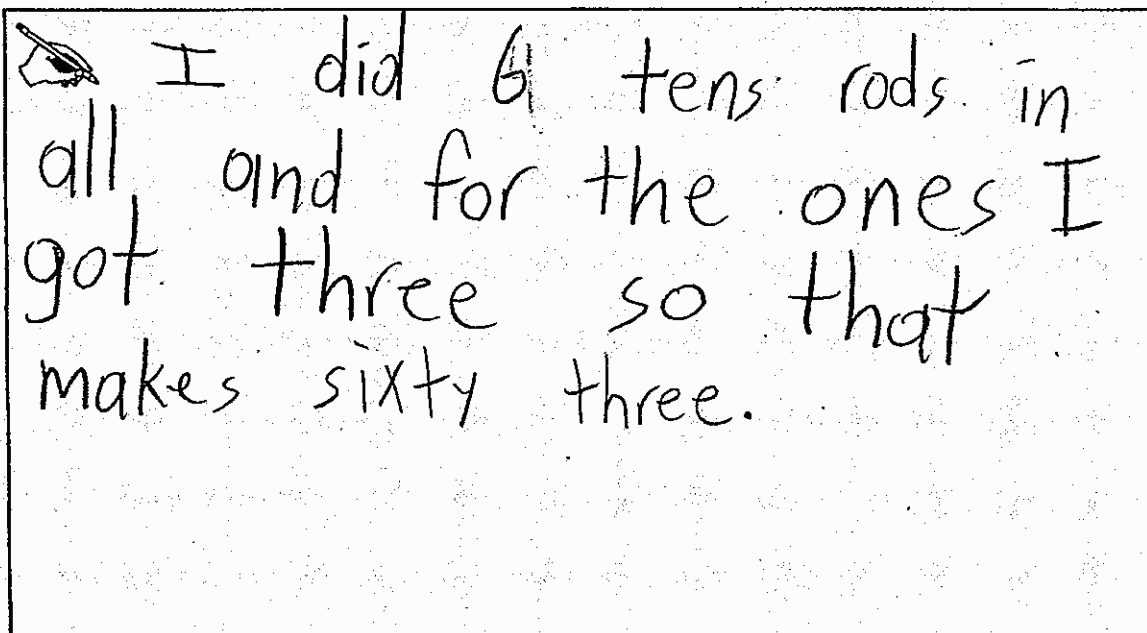
- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.



$43 + 20 = \underline{63}$

63 in all

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.



I did 6 tens rods in all and for the ones I got three so that makes sixty three.

Anchor 7

Litho 00101200179

Total Content Points: 0

Total Practice Points: 2 (MP3, MP6)

Although the student solves the addition equation in Part B, the equation in Part A is incorrectly solved (no credit for 1.NBT.C.4). In Part C, by stating that the tens are put together and then the ones added (“I did 6 tens rods in all and for the ones I got three so that makes sixty three”), the student constructs an explanation to tell how ten rods and ones can be used to add two-digit numbers (MP3). Since neither diagram in Part A or Part B has addition signs, the student does not create correct diagrams using ten rods and ones to model an addition equation (no credit for MP4). In Part C, by using the terms “10 rods” and “ones”, the student uses precise reference to place value in the explanation (MP6).

Total Awarded Points: 2 out of 4

Place Value Strategy Task

A ten rod and a one are shown.

Ten Rod One




Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.


$24 + 30 = \underline{54}$

Place Value Strategy Task

- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

 $43 + 20 = \underline{63}$

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.



You can count by tens and ones.

Anchor 8

Litho 00041200172

Total Content Points: 1 (1.NBT.C.4)

Total Practice Points: 0

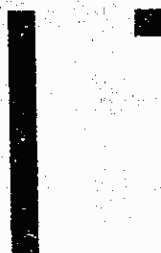
The student solves the addition equations in Part A and Part B and states the answers 54 and 63 (1.NBT.C.4). In Part C, by only referring to counting tens and ones and not grouping them through place value in any clear way, the student does not construct an explanation to tell how tens and ones can be used to add two-digit numbers (no credit for MP3). The student models the answers in Parts A and C using ten rods and ones, but does not create diagrams to model addition equations (no credit for MP4). In Part C, by not referencing 10 rods and ones to indicate place value, nor referencing any of the numbers used in the task by their place value names to distinguish the tens place from the ones place, the student does not make precise reference to place value in the explanation (no credit for MP6).

Total Awarded Points: 1 out of 4

Place Value Strategy Task

A ten rod and a one are shown.

Ten Rod One



Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

$$24 + 30 = \underline{54}$$

Place Value Strategy Task

- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

43 + 20 = _____

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.

You can use tens and ones to add up to the answer!

Anchor 9

Litho 00131200179

Total Content Points: 0

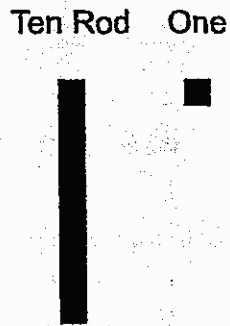
Total Practice Points: 1 (MP4)

Although the student solves the addition equation in Part A, the student does not use a numeral to state the answer in Part B (no credit for 1.NBT.C.4). In Part C, by only referring to adding tens and ones and not grouping them through place value to order the addition in any clear way, the student does not construct an explanation to tell how tens and ones can be used to add two-digit numbers (no credit for MP3). The student creates correct diagrams in Part A and Part B using ten rods and ones to model the addition equations. (MP4). In Part C, by not referencing 10 rods and ones to indicate place value, nor referencing any of the numbers used in the task by their place value names to distinguish the tens place from the ones place, the student does not make precise reference to place value in the explanation (no credit for MP6).

Total Awarded Points: 1 out of 4

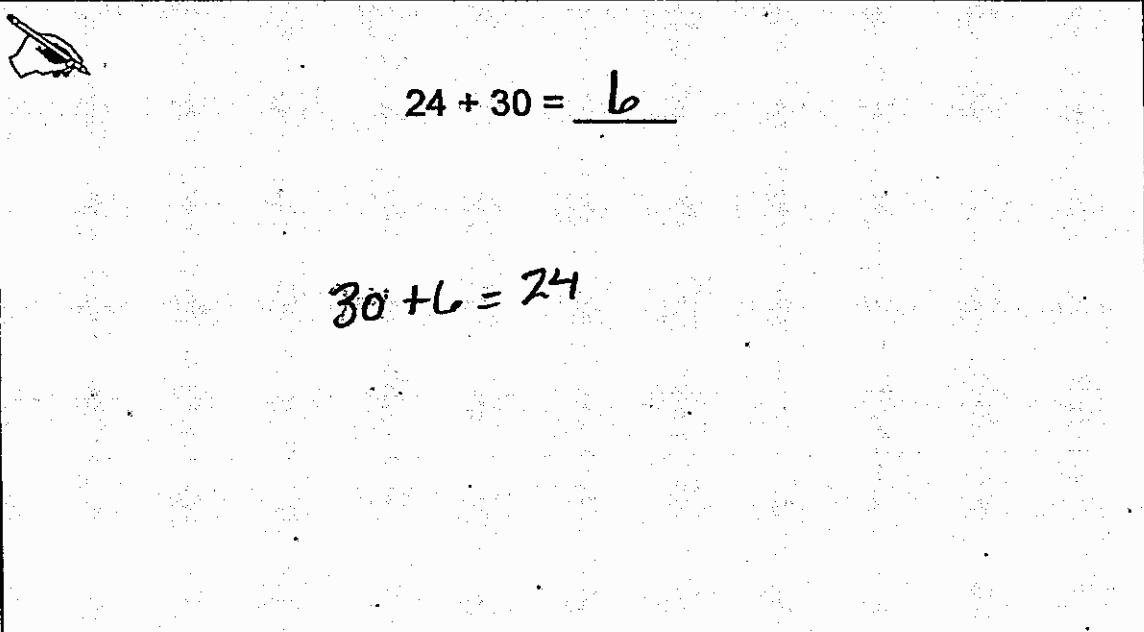
Place Value Strategy Task

A ten rod and a one are shown.



Create diagrams using ten rods and ones to show each equation. Solve each equation and write the answers on the lines.

- a. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.

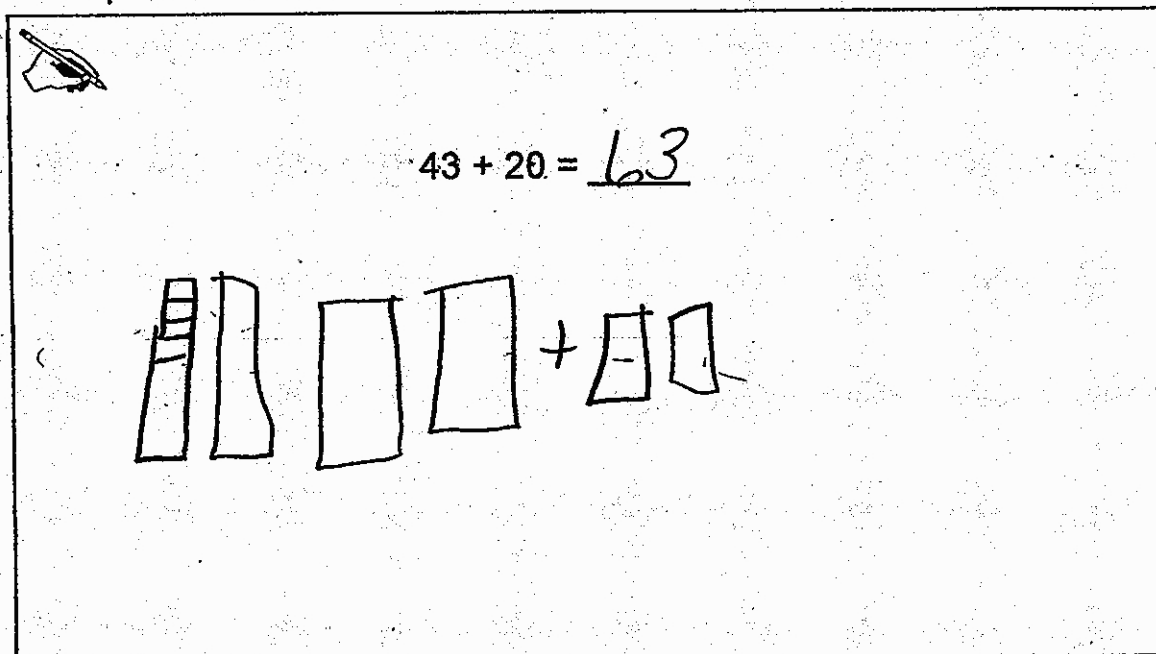


$24 + 30 = \underline{6}$

$30 + 6 = 24$

Place Value Strategy Task

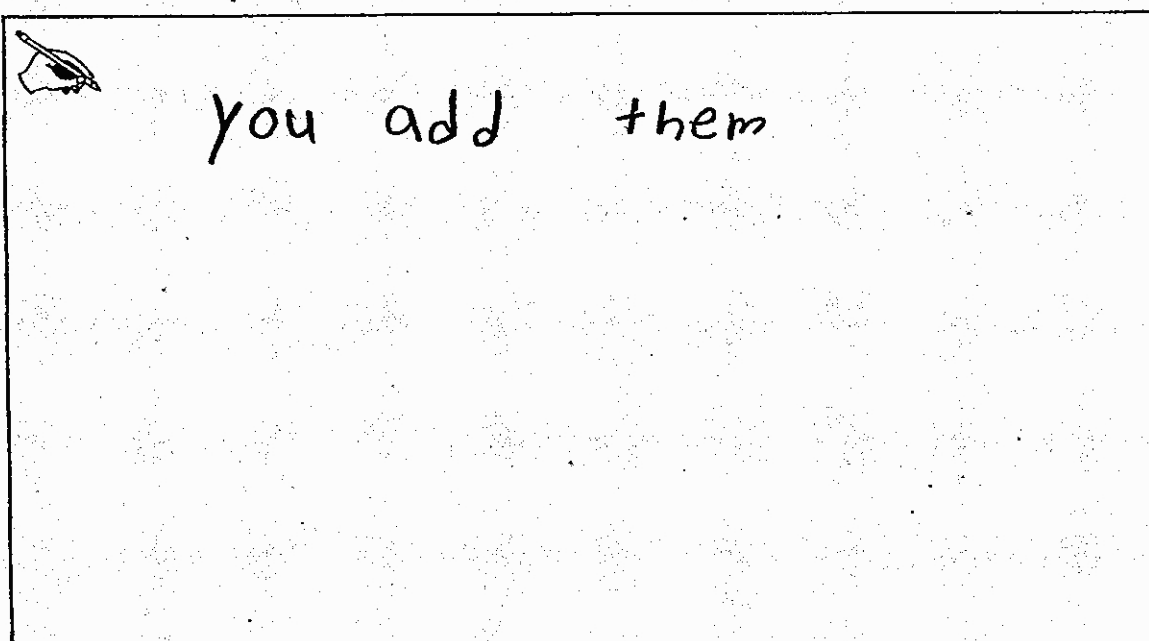
- b. Create a diagram using ten rods and ones to show this equation. Solve this equation and write the answer on the line.



43 + 20 = 63

4 ten rods and 3 one units + 2 ten rods

- c. Explain how place value or the ten rods and the ones can be used to solve these equations.



you add them

Anchor 10

Litho 00021200179

Total Content Points: 0

Total Practice Points: 0

Although the student solves the addition equation in Part B, the equation in Part A is incorrectly solved (no credit for 1.NBT.C.4). In Part C, the student does not construct a sufficient explanation to tell how place value or ten rods and ones can be used to add two-digit numbers (no credit for MP3). The student does not create diagrams in Part A or Part B that use ten rods and ones to model addition equations (no credit for MP4). In Part C, the student's brief answer does not reference place value (no credit for MP6).

Total Awarded Points: 0 out of 4