Tennessee Comprehensive Assessment Program

TCAP/CRA 2013

2

Anchor Set

Grade 2 – 45 People Task

Tennessee Comprehensive Assessment Program

Grade 2 Performance-Based Assessment

45 People Task

> There are 45 people at the park.
>
> There are 9 men.
>
> There are 8 women.
>
> The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

Scoring Guide

The CCSS for Mathematical Content (1 point)

2.OA.A.1 Identifies the number of children.
      (1 Point)

_____

The CCSS for Mathematical Practice (3 points)

MP1 Student work indicates understanding of how to use subtraction to solve the problem. Student attends to all parts of the tasks.   **(1 Point)**
(MP1: Make sense of problems and persevere in solving them.)

_____

MP2 Abstracts the quantities from the situation, shows equations or diagram, and re-contextualizes the quantities. **(1 Point)**

(MP2: Reason abstractly and quantitatively.)

_____

MP4 Constructs an accurate diagram or equation.   **(1 Point)**

(MP4: Model with mathematics.)

_____

TOTAL POINTS: 4

The CCSS for Mathematical Content Addressed In This Task

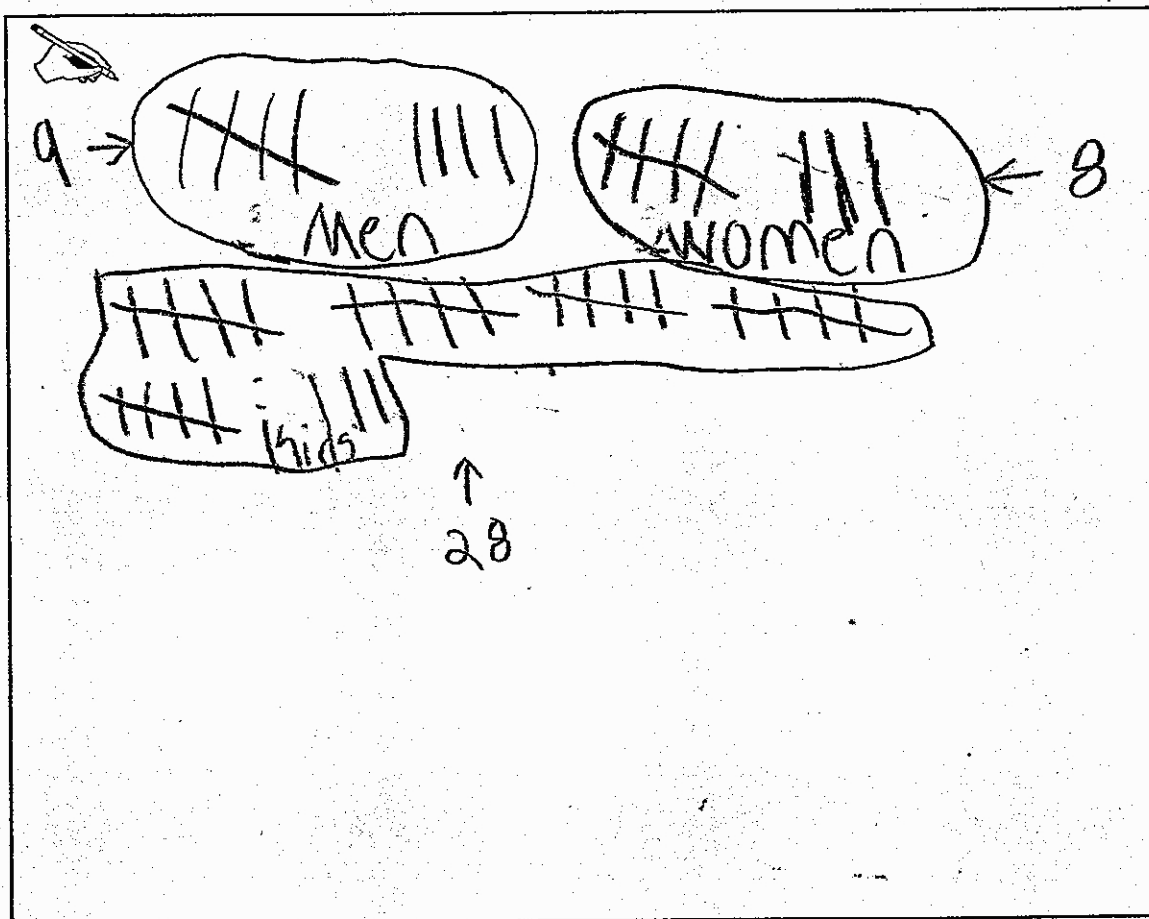| **Represent and solve problems involving addition and subtraction.** |
|---|
| 2.OA.A.1   Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g.,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

The CCSS for Mathematical Practice*

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.   expression

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.

* Gray type indicates Mathematical Practices not addressed in this assessment.
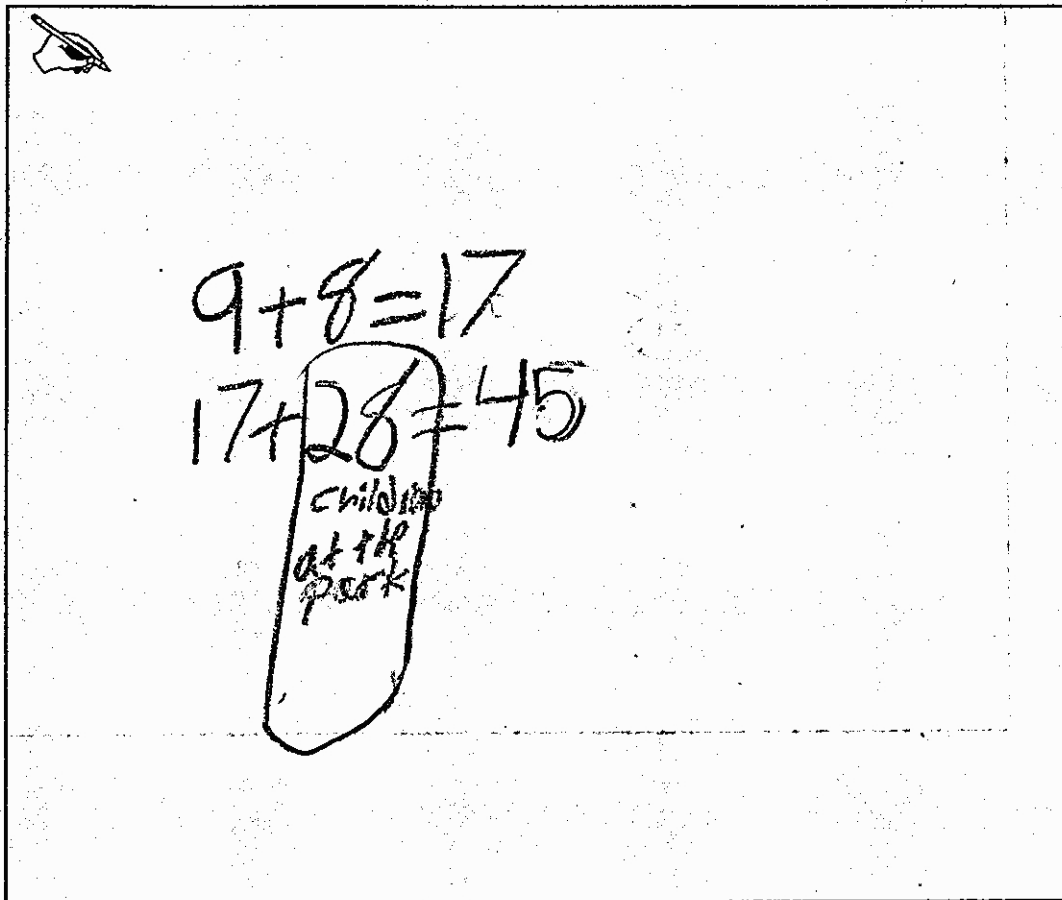
3. 45 People Task

There are 45 people at the park.

There are 9 men.

There are 8 women.

The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

Anchor 1 Litho 00422200011

Total Content Points: 1 (2.OA.A.1)

Total Practice Points: 3 (MP1, MP2, MP4)

The student correctly identifies the number of children as 28 (2.OA.A.1). The student attends to all parts of the task, and a diagram with 45 tally marks divided into groups of 9, 8, and 28 is used to solve the problem, which indicates the student understands the relationship between the known and unknown parts and understands subtraction as an unknown addend problem (MP1). The student abstracts the quantities from the situation, as evidenced by the diagram, and re-contextualizes the answer by labeling 28 as the number of children ("Kids") (MP2). The diagram is an accurate representation of the problem (MP4).

Total Awarded Points: 4 out of 4

3. 45 People Task

> There are 45 people at the park.
>
> There are 9 men.
>
> There are 8 women.
>
> The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

$$9 + 8 = 17$$
$$17 + 28 = 45$$

children at the park

Anchor 2   Litho 0001

Total Content Points: 1   (2.OA.A.1)

Total Practice Points: 3   (MP1, MP2, MP4)

The student correctly identifies the number of children as 28 (2.OA.A.1). The student attends to all parts of the task, and an addition expression $(17 + 28)$ is used to solve the problem, which indicates the student understands the relationship between the known and unknown parts and understands subtraction as an unknown addend problem (MP1). The student abstracts the quantities from the situation, as evidenced by both equations $(9 + 8 = 17, 17 + 28 = 45)$, and re-contextualizes the answer by labeling 28 as the number of children (MP2). The expressions $(9 + 8)$ and $(17 + 28)$ accurately represent the problem (MP4).

Total Awarded Points: 4 out of 4
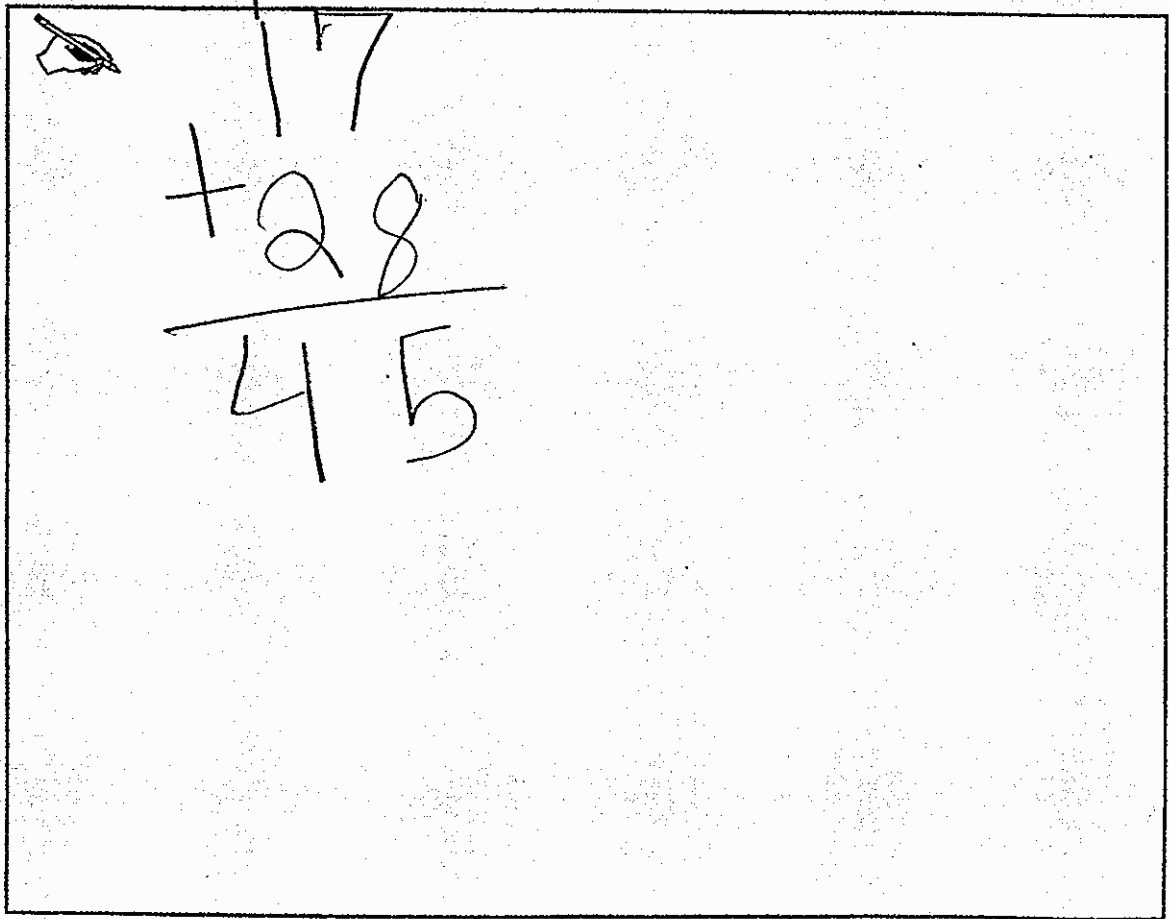
3. 45 People Task

> There are 45 people at the park.
>
> There are 9 men.
>
> There are 8 women.
>
> The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

Anchor 3   Litho 0046

Total Content Points: 1 (2.OA.A.1)

Total Practice Points: 2 (MP1, MP4)

The student correctly identifies the number of children as 28 (2.OA.A.1). The student attends to all parts of the task, and a diagram of 45 circles with 17 circles crossed off indicates an understanding of how to use subtraction to solve the problem (MP1). The student abstracts the quantities from the problem, as evidenced by the diagram, but does not re-contextualize the answer by labeling 28 as the number of children (no credit for MP2). Although the expression is incorrect ($45 - 9 - 8 - 1$), the diagram is an accurate representation of the problem (MP4).

Total Awarded Points: 3 out of 4

A-4

3. 45 People Task

> There are 45 people at the park.
>
> There are 9 men.
>
> There are 8 women.
>
> The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

$$\begin{array}{r} 17 \\ + 28 \\ \hline 45 \end{array}$$

Anchor 4   Litho 0125

Total Content Points: 1   (2.OA.A.1)

Total Practice Points: 2   (MP1, MP4)

The student correctly identifies the number of children as 28 (2.OA.A.1). The student attends to all parts of the task, and an addition expression (17 + 28) is used to solve the problem, which indicates that the student understands the relationship between the known and unknown parts, and understands subtraction as an unknown addend problem (MP1). The student abstracts the quantities from the problem, as evidenced by the expression, but does not re-contextualize the answer by labeling 28 as the number of children (no credit for MP2). The expression (17 + 28) is an accurate representation of the problem (MP4).

Total Awarded Points: 3 out of 4

3. 45 People Task

> There are 45 people at the park.
>
> There are 9 men.
>
> There are 8 women.
>
> The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

Anchor 5   Litho 0130

Total Content Points: 1   (2.OA.A.1)

Total Practice Points: 2   (MP1, MP4)

The student correctly identifies the number of children as 28 (2.OA.A.1). The student
attends to all parts of the task, and a diagram with 45 circles, 9 identified as men and 8
identified as women, indicates that the student understands how to use subtraction to
solve the problem (MP1). The student abstracts the quantities from the situation, as
evidenced by the diagram, but does not re-contextualize the answer by labeling either the
number 28 or the 28 circles as the number of children (no credit for MP2). The diagram is
an accurate representation of the problem (MP4).

Total Awarded Points: 3 out of 4

A-6

3. 45 People Task

There are 45 people at the park.

There are 9 men.

There are 8 women.

The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

Anchor 6   Litho 0091

Total Content Points: 1   (2.OA.A.1)

Total Practice Points: 2   (MP1, MP4)

The student correctly identifies the number of children as 28 (2.OA.A.1). The student attends to all parts of the task, and a subtraction expression (45 – 8 – 9) indicates that the student understands how to use subtraction to solve the problem (MP1). The student abstracts the quantities from the situation, as evidenced by the equation, but does not re-contextualize the answer by labeling 28 as the number of children (no credit for MP2). Although the diagram is incomplete, showing only the number of adults, the expression (45 – 8 – 9) is an accurate representation of the problem (MP4).

Total Awarded Points: 3 out of 4

3. 45 People Task

There are 45 people at the park.

There are 9 men.

There are 8 women.

The rest are children

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

$$45 - 17 = 33$$

Anchor 7   Litho 00462200011

Total Content Points: 0

Total Practice Points: 2   (MP1, MP4)

The student incorrectly identifies the number of children as 33 (no credit for 2.OA.A.1).
The student attends to all parts of the task, and the use of a subtraction expression
(45 – 17) indicates that the student understands how to use subtraction to solve the
problem (MP1). The student abstracts the quantities from the situation, as evidenced by
the expression, but does not re-contextualize the answer by labeling the answer as the
number of children (no credit for MP2). Although the diagram is incorrect, illustrating
only the student's answer of 33, the expression (45 – 17) is an accurate representation of
the problem (MP4).

Total Awarded Points: 2 out of 4

3. 45 People Task

> There are 45 people at the park.
>
> There are 9 men.
>
> There are 8 women.
>
> The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

Anchor 8   Litho 0006

Total Content Points: 0

Total Practice Points: 2   (MP1, MP4)

The student incorrectly identifies the number of children as 26 (no credit for 2.OA.A.1).
The student attends to all parts of the task, and a diagram of 45 circles with 17 circles
crossed off, as well as the expressions 45 – 9 and 34 – 8, indicate an understanding of how
to use subtraction to solve the problem (MP1). The student abstracts the quantities from the
situation, as evidenced by the diagram, but does not re-contextualize the answer as the
number of children (no credit for MP2). Although the first equation (45 – 9 = 34) is
incorrect, the diagram is an accurate representation of the problem (MP4).

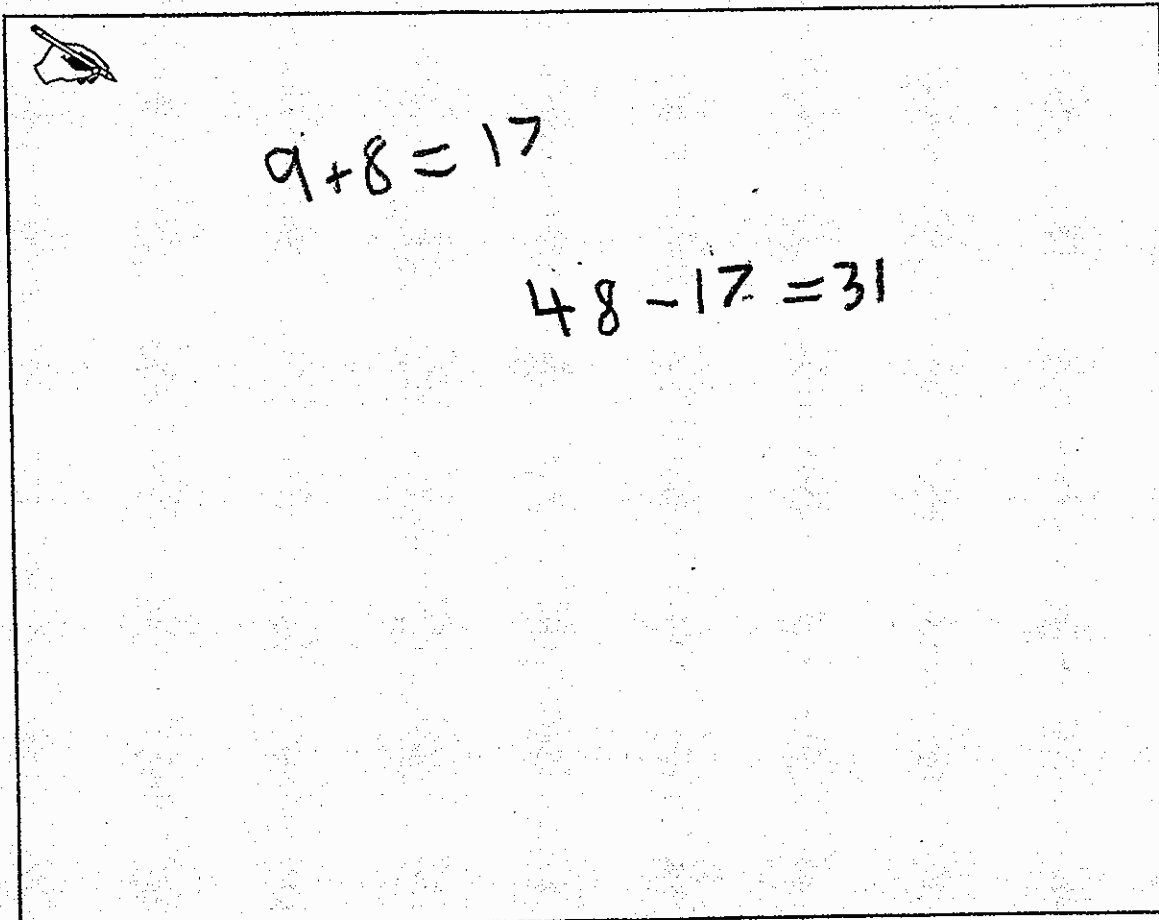Total Awarded Points: 2 out of 4

3. 45 People Task

There are 45 people at the park.

There are 9 men.

There are 8 women.

The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

$$9 + 8 = 17$$

$$48 - 17 = 31$$

Anchor 9   Litho 0102

Total Content Points: 0

Total Practice Points: 1   (MP1)

The student incorrectly identifies the number of children as 31 (no credit for 2.OA.A.1). The student attends to all parts of the task, and a subtraction expression (48 – 17) indicates that the student understands how to use subtraction to solve the problem (MP1). The student does not correctly abstract the quantities from the situation, as evidenced by the use of 48 rather than 45 in the expression, and does not re-contextualize the answer by labeling the answer as the number of children (no credit for MP2). The expression 48 – 17 is not an accurate representation of the problem (no credit for MP4).

Total Awarded Points: 1 out of 4
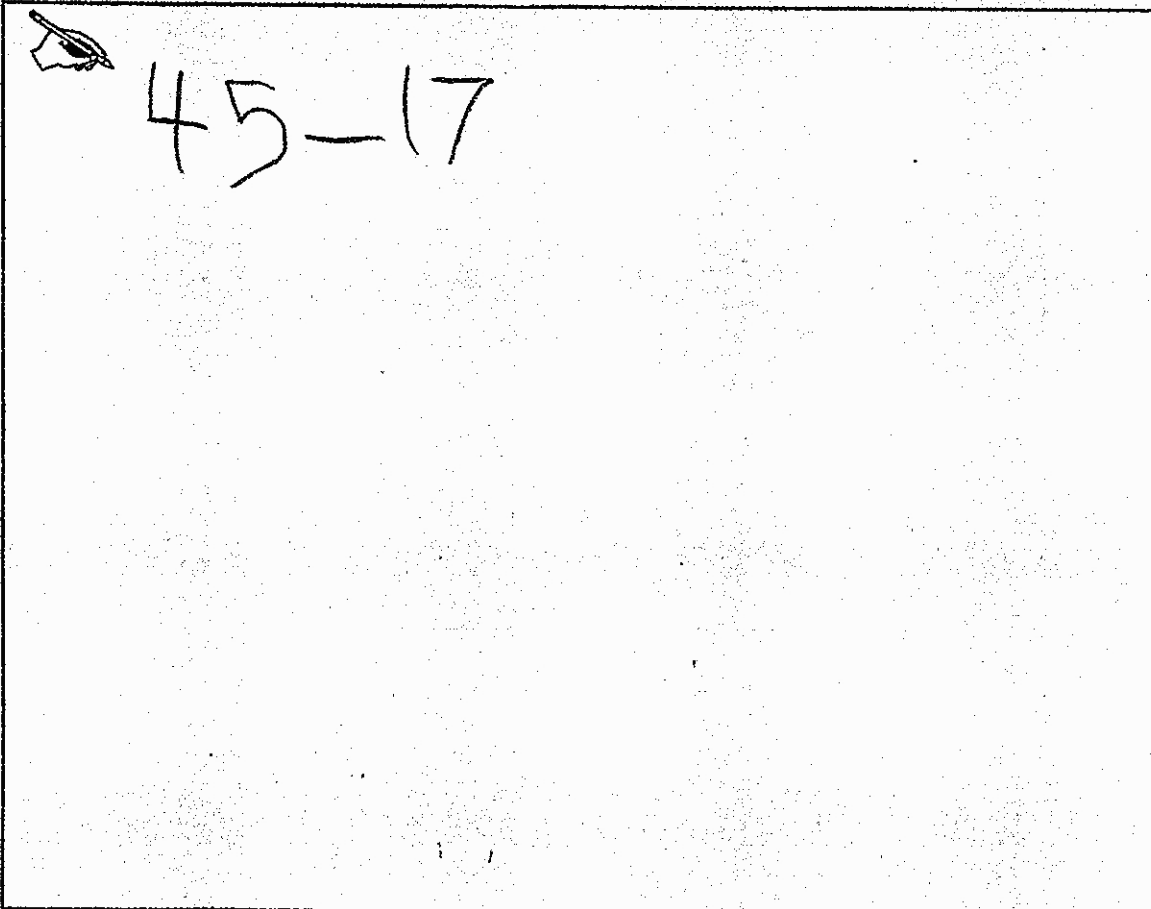
A-10

3. 45 People Task

There are 45 people at the park.

There are 9 men.

There are 8 women.

The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

45-17

Anchor 10   Litho 0066

Total Content Points: 0

Total Practice Points: 1   (MP4)

The student does not identify the number of children (no credit for 2.OA.A.1). Although the expression 45 – 17 indicates an understanding of how to use subtraction to solve the problem, the lack of a final answer indicates that the student did not attend to all parts of the task (no credit for MP1). The student abstracts the quantities from the situation, as evidenced by the expression (45 – 17), but does not re-contextualize the answer by labeling an answer as the number of children (no credit for MP2). The expression 45 – 17 is an accurate representation of the problem (MP4).

Total Awarded Points: 1 out of 4

3. 45 People Task

There are 45 people at the park.

There are 9 men.

There are 8 women.

The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

$$9 + 8$$
17 children

$$8 + 9$$
17 children

$$8 + 9 = 17 \text{ children}$$

$$9 + 8 = 17 \text{ children}$$

Response#: 2-a   Litho#: 0002

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Anchor 11   Litho 0002

Total Content Points: 0

Total Practice Points: 0

The student incorrectly identifies the number of children as 17 (no credit for 2.OA.A.1).
The student neither attends to all parts of the task, since the expression 9 + 8 represents
only the first step in solving the problem, nor demonstrates an understanding of how to
use subtraction to solve the problem (no credit for MP1). The student does not use the
total of 45 when abstracting the quantities and incorrectly re-contextualizes the answer by
labeling 17 as the number of children rather than as the number of adults (no credit
for MP2). The expression 9 + 8 represents only one step of the problem and is not an
accurate representation of the problem (no credit for MP4).

Total Awarded Points: 0 out of 4

3. 45 People Task

There are 45 people at the park.

There are 9 men.

There are 8 women.

The rest are children.

How many children are at the park? Use a diagram or one or more equations to show how you figured out the number of children at the park.

45
+ 9
8
62

Anchor 12   Litho 0120

Total Content Points: 0

Total Practice Points: 0

The student incorrectly identifies the number of children as 62 (no credit for 2.OA.A.1).
The student attempts to attend to all parts of the task, but neither the expression
(45 + 9 + 8) nor the diagram indicates an understanding of how to use subtraction to
solve the problem (no credit for MP1). The student incorrectly abstracts the quantities
from the situation by indicating that 9 and 8 are not included among the 45 people and
does not re-contextualize the answer by labeling 62 as the number of children (no credit
for MP2). Neither the expression (45 + 9 + 8) nor the diagram accurately represents the
problem (no credit for MP4).

Total Awarded Points: 0 out of 4