

SECURE MATERIAL – Reader Name: _____
Tennessee Comprehensive Assessment Program

TCAP/CRA

2014



3

Phase II

Two Areas Task

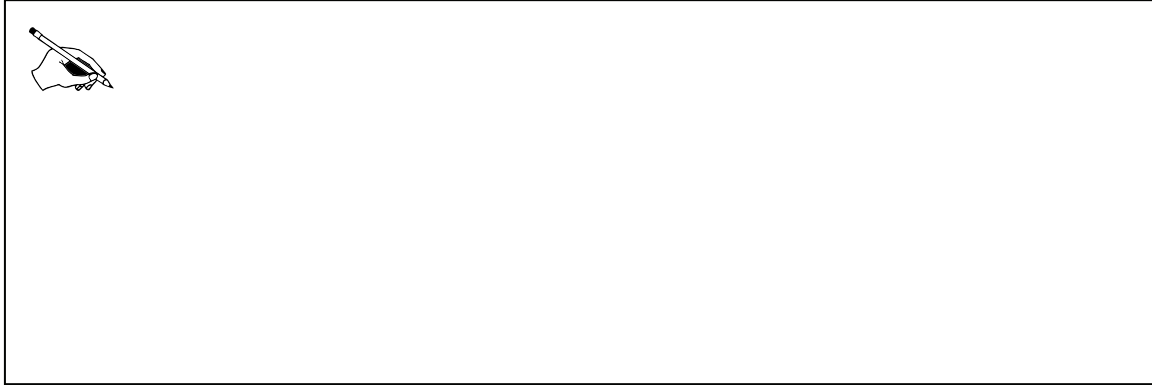
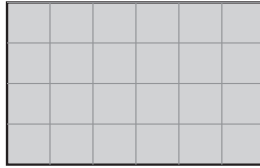
Anchor Set

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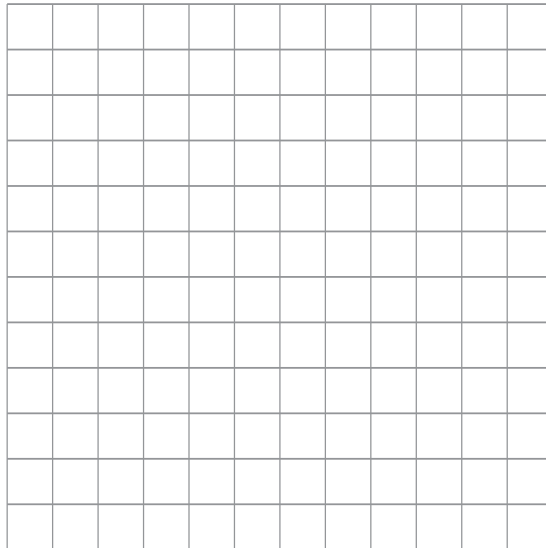
Part 2: Constructed Response Task Section

Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.

A large empty rectangular box for writing a multiplication equation. In the top-left corner, there is a small icon of a hand holding a pencil, indicating where to start writing.

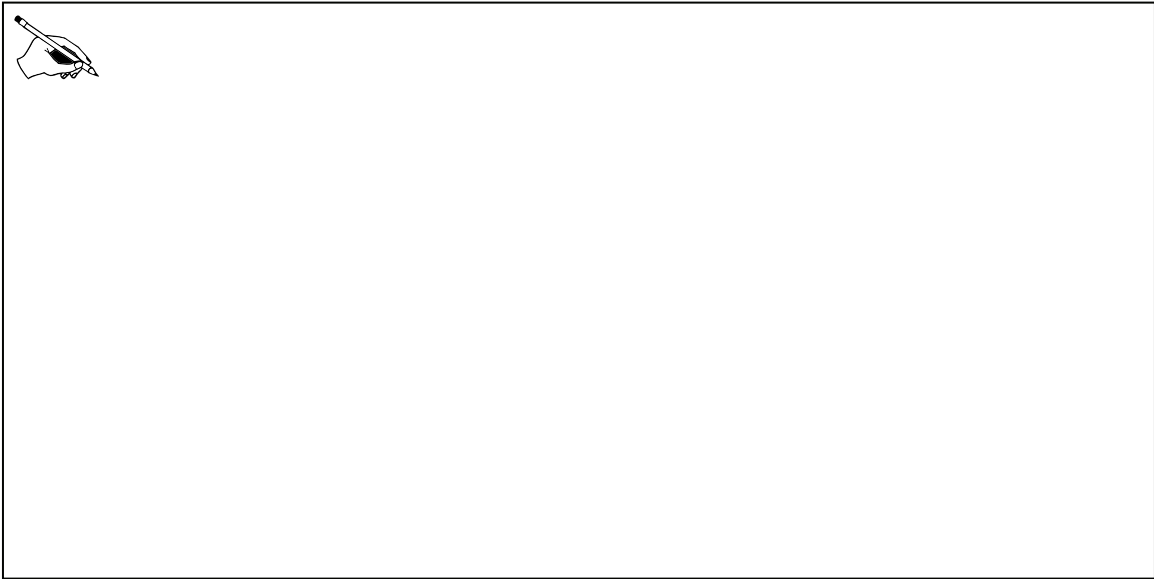
- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Part 2: Constructed Response Task Section

Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.



Scoring Guide

The CCSS for Mathematical Content (1 point)

3.MD.C.7b Shows multiplication equations to determine the area of each rectangle. _____

(1 Point)

The CCSS for Mathematical Practice (2 points)

MP6 Includes precise labels for both products, using square units. _____

(MP6: Attend to precision.)

(1 Point)

MP7 Makes use of the structure of mathematics by creating a second rectangle with an area equivalent to the area of the first rectangle. _____

(MP7: Look for and make use of structure.)

(1 Point)

TOTAL POINTS: 3

The CCSS for Mathematical Content Addressed In This Task

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

3.MD.C.7b Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.

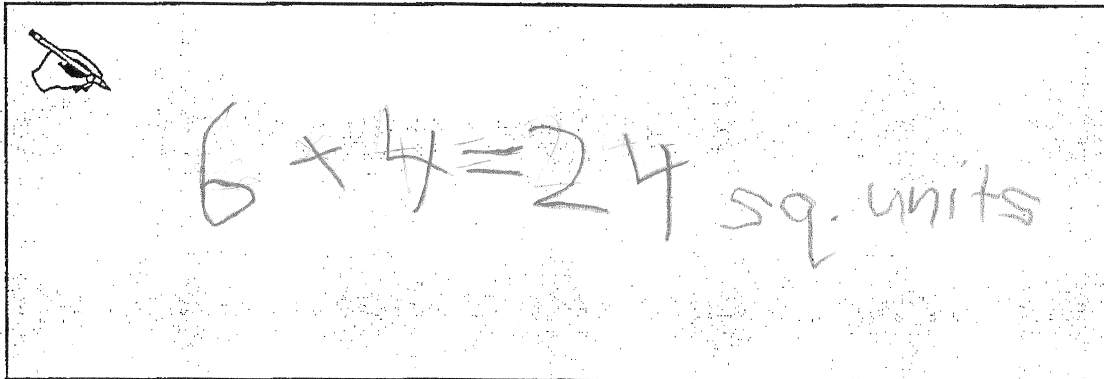
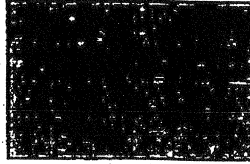
The CCSS for Mathematical Practice*

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.
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.

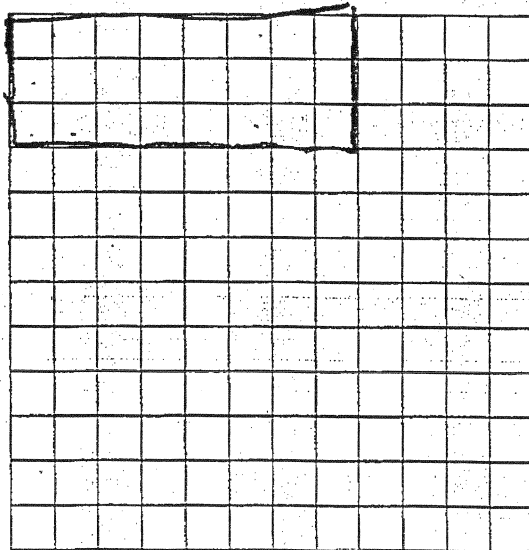
* Gray type indicates Mathematical Practices not addressed in this assessment.

Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.

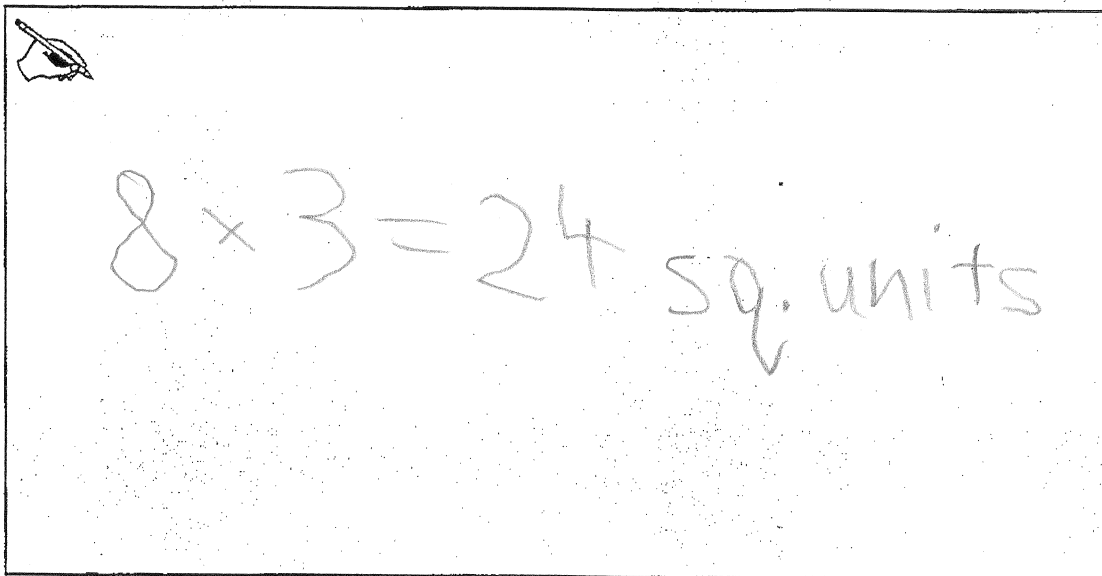


- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.



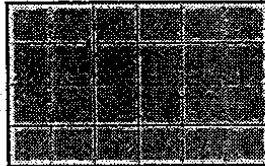
Anchor 1 Litho 0099
Total Content Points: 1 (3.MD.C.7b)
Total Practice Points: 2 (MP6, MP7)

In Part A, the student shows a multiplication equation to determine the area of the given rectangle ($6 \times 4 = 24$), and in Part C, shows a multiplication equation to determine the area of the rectangle drawn in Part B ($8 \times 3 = 24$) (3.MD.C.7b). The student includes precise labels for both products in Parts A and C (“sq. units”) (MP6). In Part B, the student makes use of the structure of mathematics to create a second rectangle with an area equivalent to the area of the first rectangle (MP7).

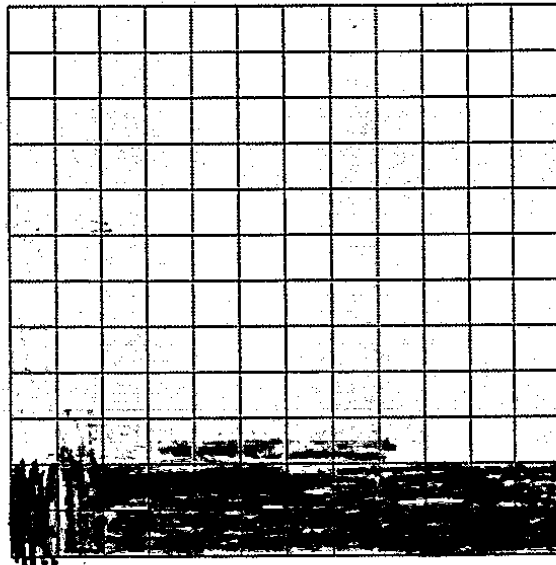
Total Awarded Points: 3 out of 3

Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.

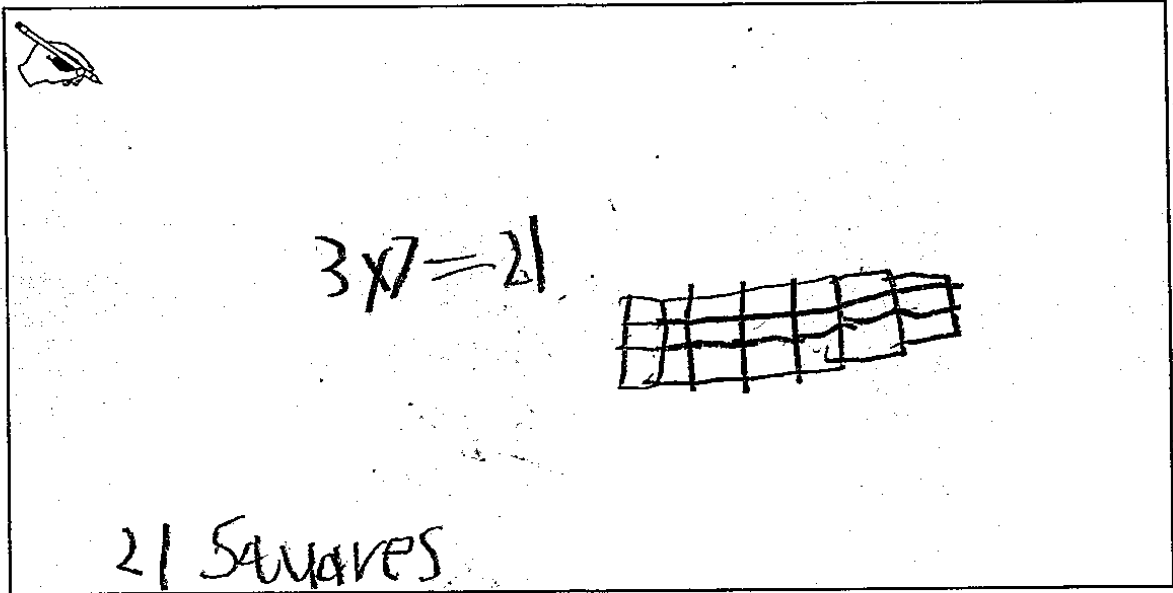
A hand-drawn area calculation. In the top left corner, there is a small drawing of a hand holding a pencil. In the center, the equation $4 \times 6 = 24$ is written. Below the equation, the text "24 squares" is written.

- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.



The diagram is enclosed in a rectangular border. In the top-left corner, there is a small drawing of a hand holding a pencil. In the center, the equation $3 \times 7 = 21$ is written in black ink. To the right of the equation is a hand-drawn grid representing a rectangle, consisting of 3 rows and 7 columns of small squares. Below the grid, the text "21 SQUARES" is written in black ink.

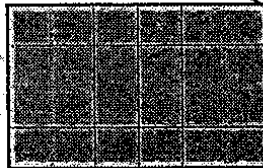
Anchor 2 Litho 0035
Total Content Points: 1 (3.MD.C.7b)
Total Practice Points: 2 (MP6, MP7)

In Part A, the student shows a multiplication equation to determine the area of the given rectangle ($4 \times 6 = 24$), and in Part C, shows a multiplication equation to determine the area of the rectangle drawn alongside the equation ($3 \times 7 = 21$) (3.MD.C.7b). The student includes precise labels for both products, using “squares,” which is an acceptable substitute for square units (MP6). In Part B, the student makes use of the structure of mathematics to create a second rectangle with an area equivalent to the area of the first rectangle (MP7).

Total Awarded Points: 3 out of 3

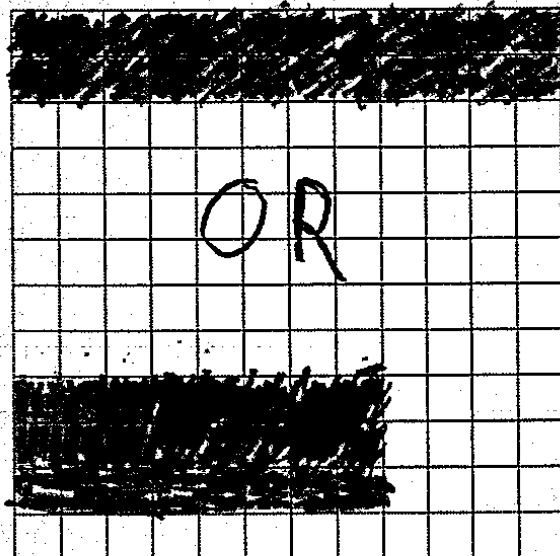
Two Areas Task

- a. ✓ Write a multiplication equation to find the area of the rectangle below.



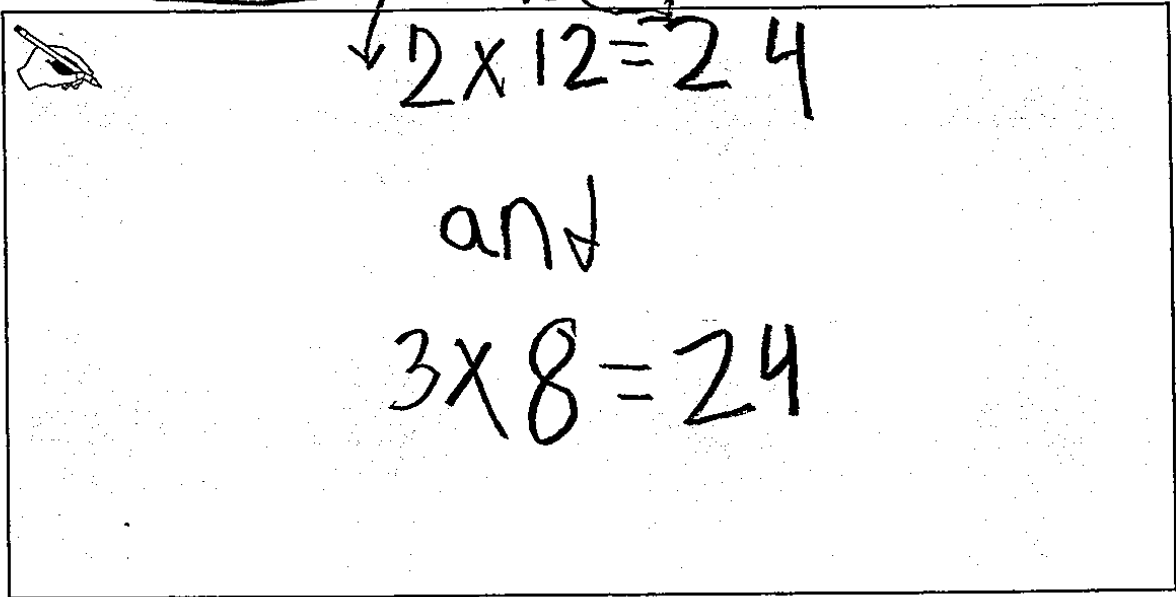
✍ $4 \times 6 = 24$

- b. ✓ On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.



Anchor 3

Litho 0026

Total Content Points: 1 (3.MD.C.7b)

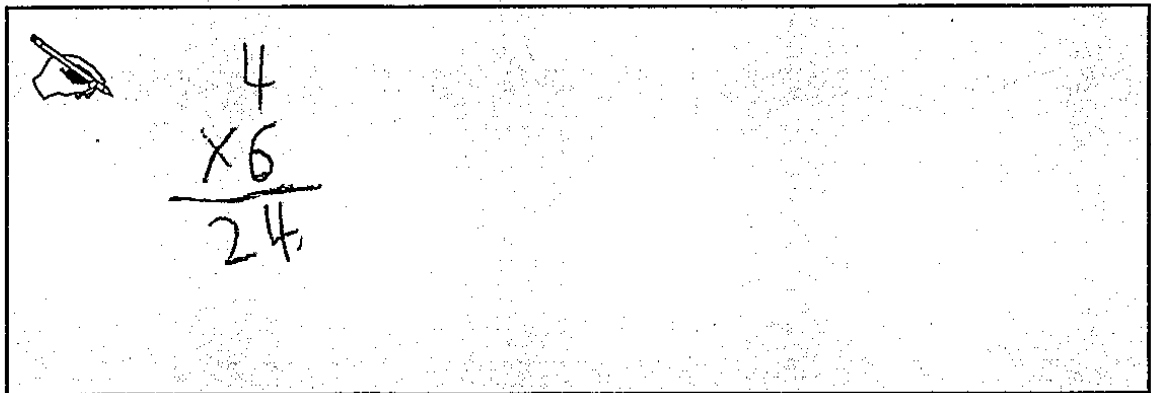
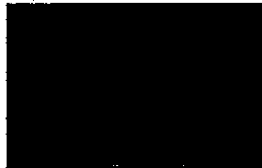
Total Practice Points: 1 (MP7)

In Part A, the student shows a multiplication equation to determine the area of the given rectangle ($4 \times 6 = 24$), and in Part C, shows multiplication equations to determine the areas of each of the rectangles drawn in Part B ($2 \times 12 = 24$ and $3 \times 8 = 24$) (3.MD.C.7b). The student does not include any labels for either product (no credit for MP6). In Part B, the student makes use of the structure of mathematics to create two other rectangles with areas equivalent to the area of the first rectangle (MP7).

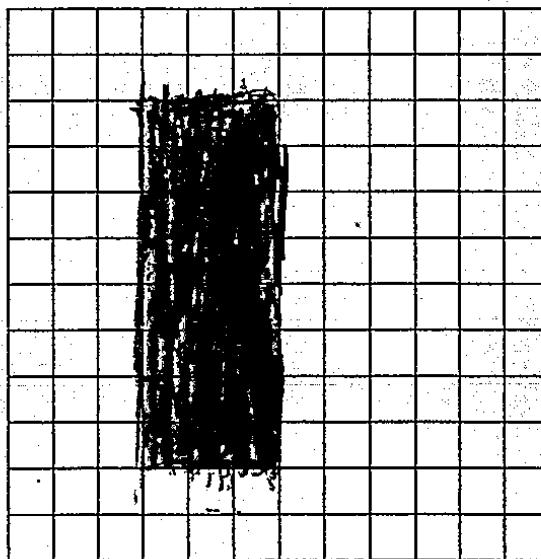
Total Awarded Points: 2 out of 3

Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.

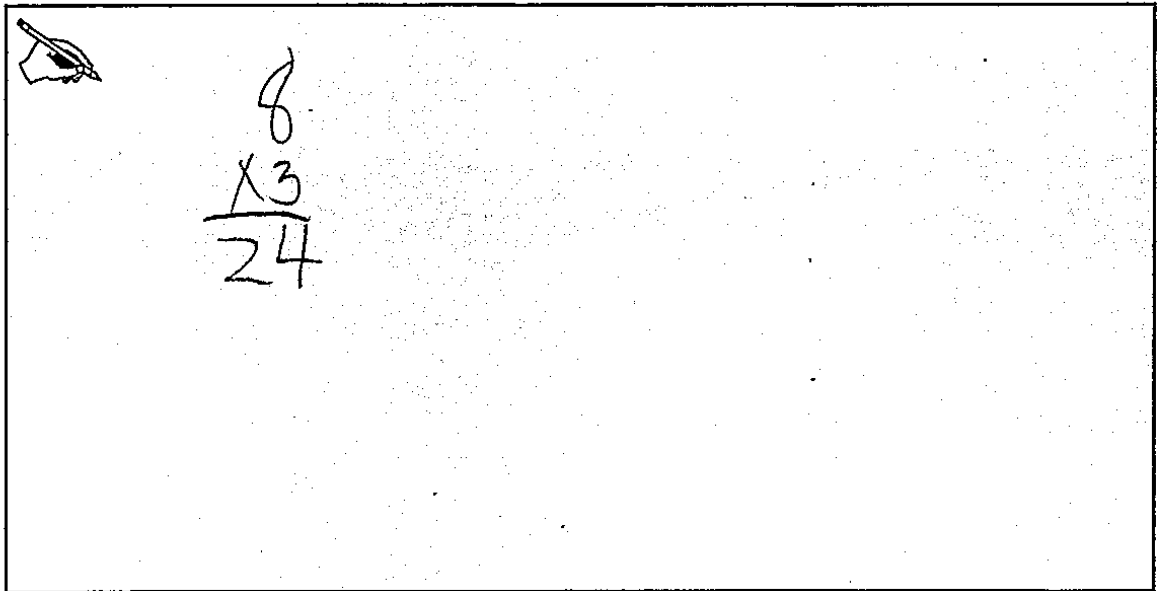

$$\begin{array}{r} 4 \\ \times 6 \\ \hline 24 \end{array}$$

- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.



A hand-drawn multiplication equation is shown inside a rectangular box. The equation is $8 \times 3 = 24$. The number 8 is written above a horizontal line, and the number 3 is written below the line. The number 24 is written below another horizontal line. In the top-left corner of the box, there is a small drawing of a hand holding a pencil.

Anchor 4

Litho 00513200145

Total Content Points: 1 (3.MD.C.7b)

Total Practice Points: 1 (MP7)

In Part A, the student shows a multiplication equation to determine the area of the given

rectangle $\left(\begin{array}{l} 4 \\ \times 6 \\ \hline 24 \end{array} \right)$, and in Part C, shows a multiplication equation to determine the area of the

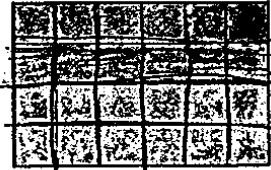
rectangle drawn in Part B $\left(\begin{array}{l} 8 \\ \times 3 \\ \hline 24 \end{array} \right)$ (3.MD.C.7b). The student does not include any labels for either

product (no credit for MP6). In Part B, the student makes use of the structure of mathematics to create a second rectangle with an area equivalent to the area of the first rectangle (MP7).

Total Awarded Points: 2 out of 3

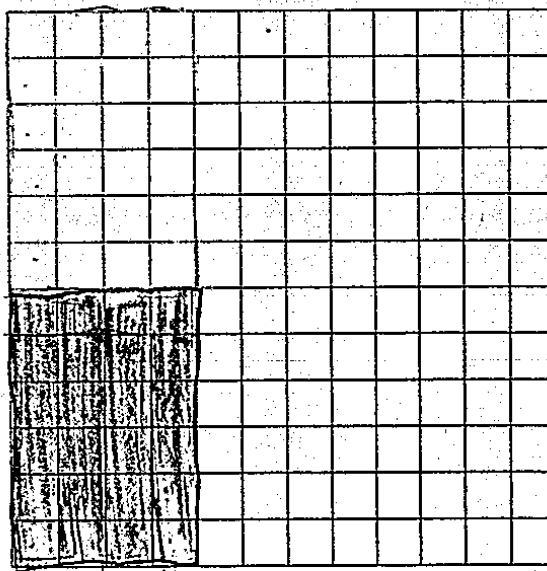
Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.



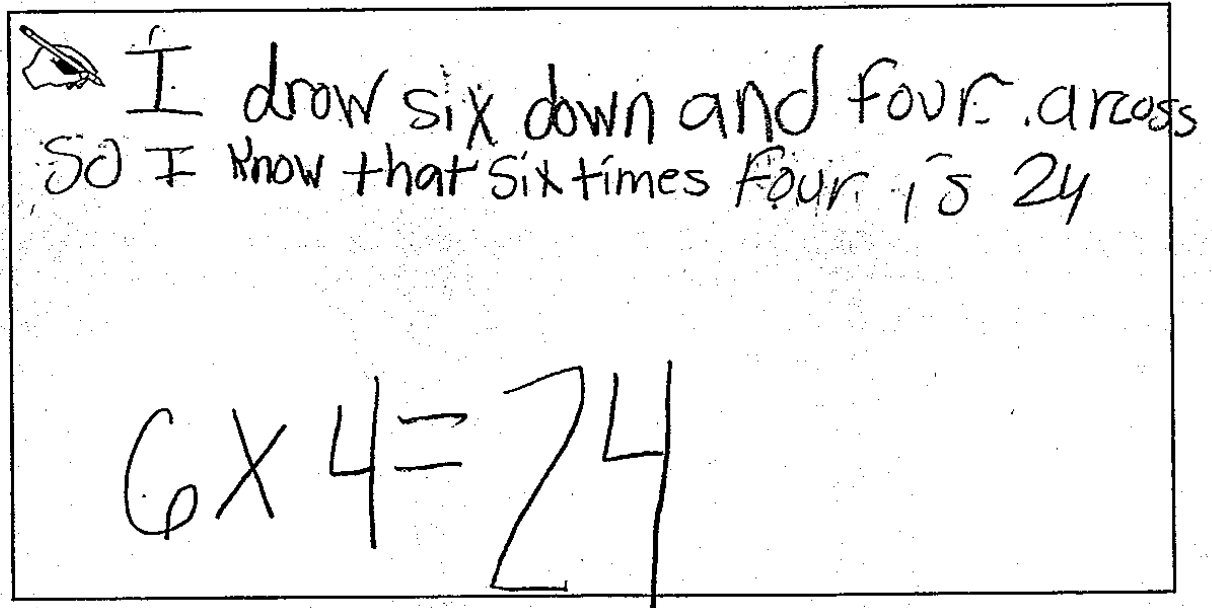
See in the rectangle there are 24 square tiles in the rectangle and there is four down and six across and altogether there are twenty-four squares so I know four times six equals twenty-four.


- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.

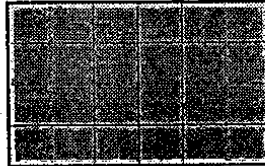



 I draw six down and four across.
So I know that six times four is 24

$$6 \times 4 = 24$$

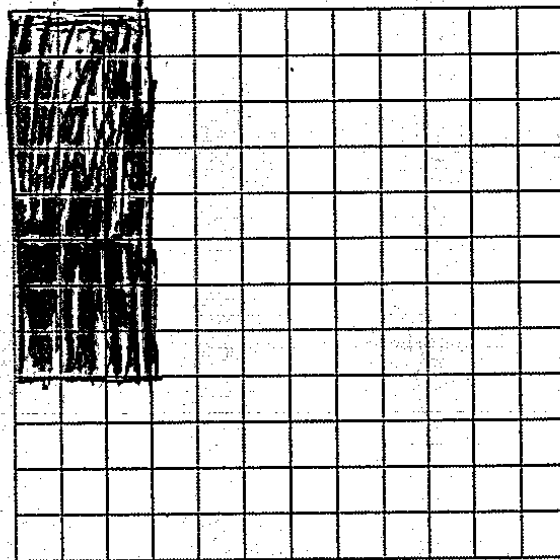
Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.



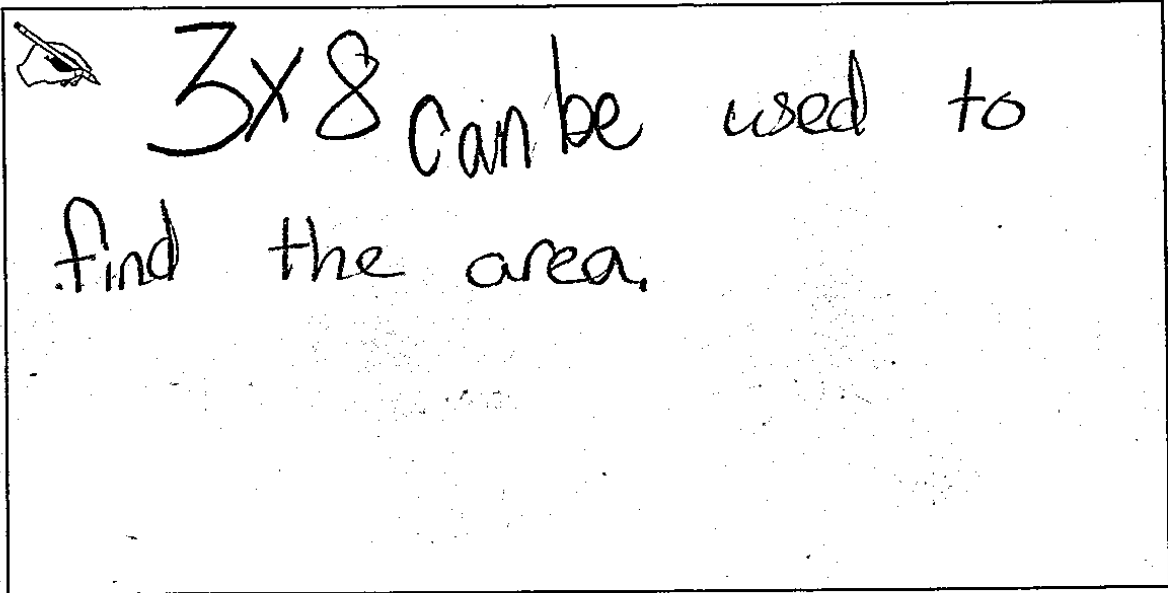
 $6 \times 4 = 24$ is a multiplication equation that can be used to find the area of the rectangle.

- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.



Anchor 6

Litho 0025

Total Content Points: 0

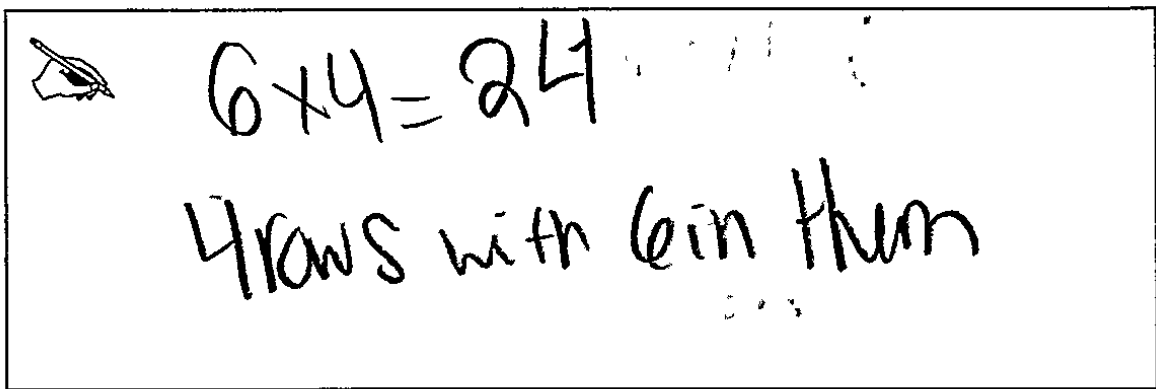
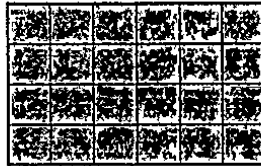
Total Practice Points: 1 (MP7)

In Part A, the student shows a multiplication equation to determine the area of the given rectangle ($6 \times 4 = 24$). However, in Part C, the student provides only an expression (3×8), not an equation, to find the area of the rectangle drawn in Part B (no credit for 3.MD.C.7b). The student does not include a precise label for either product (no credit for MP6). In Part B, the student makes use of the structure of mathematics to create a second rectangle with an area equivalent to the area of the first rectangle (MP7).

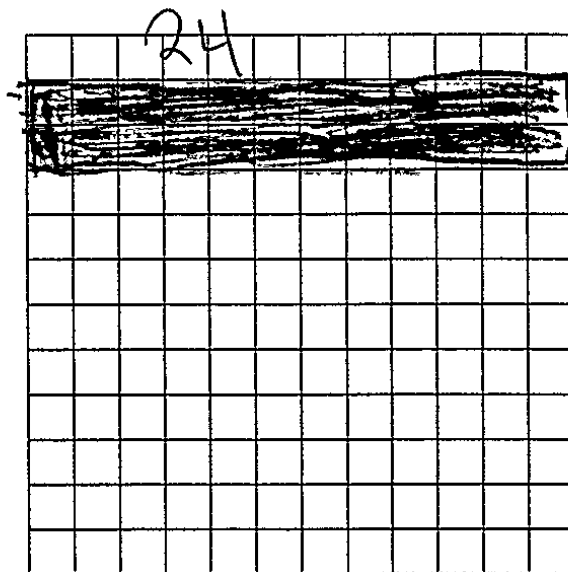
Total Awarded Points: 1 out of 3

Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.

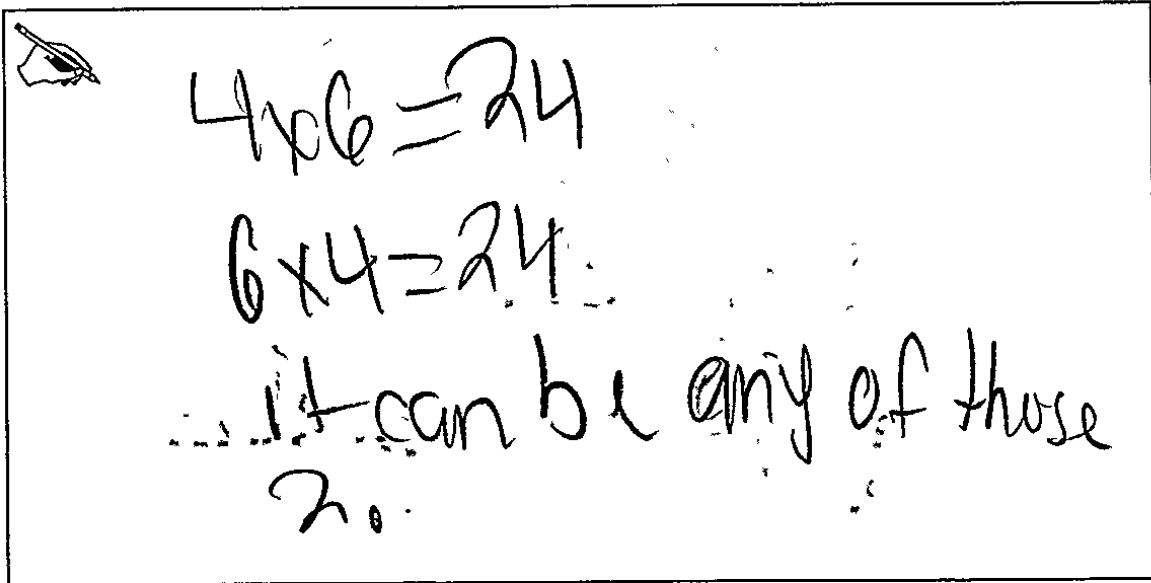


- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.



A hand-drawn rectangular box containing handwritten work. In the top-left corner, there is a small drawing of a hand holding a pencil. The main text inside the box consists of two multiplication equations: $4 \times 6 = 24$ and $6 \times 4 = 24$. Below these equations, the text reads "it can be any of those 2.".

Anchor 7

Litho 00043200107

Total Content Points: 0

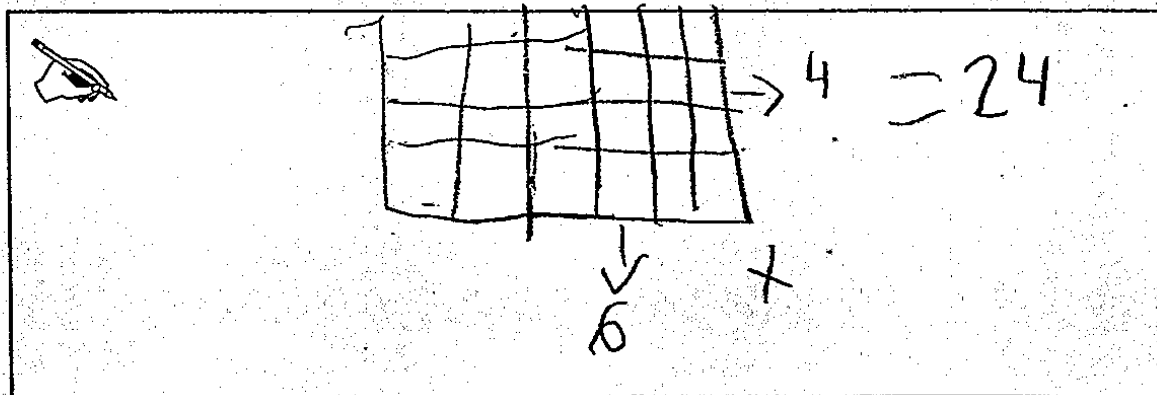
Total Practice Points: 1 (MP7)

In Part A, the student shows a multiplication equation to determine the area of the given rectangle ($6 \times 4 = 24$). However, in Part C, the student provides two equations that do not accurately describe the figure created in Part B (no credit for 3.MD.C.7b). The student does not include any labels for any products (no credit for MP6). In Part B, the student makes use of the structure of mathematics to create a second rectangle with an area equivalent to the area of the first rectangle (MP7).

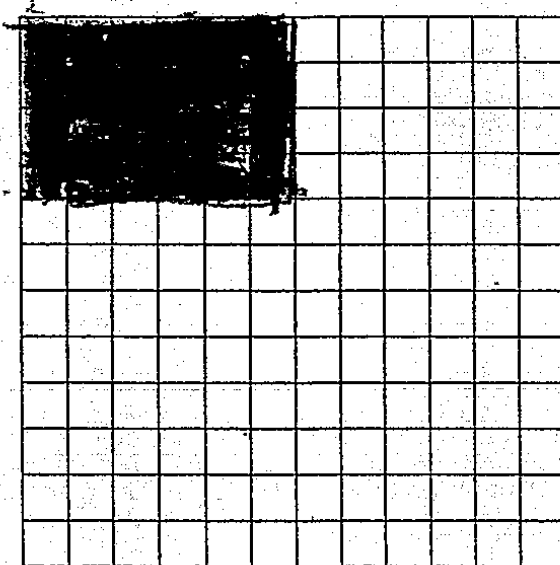
Total Awarded Points: 1 out of 3

Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.

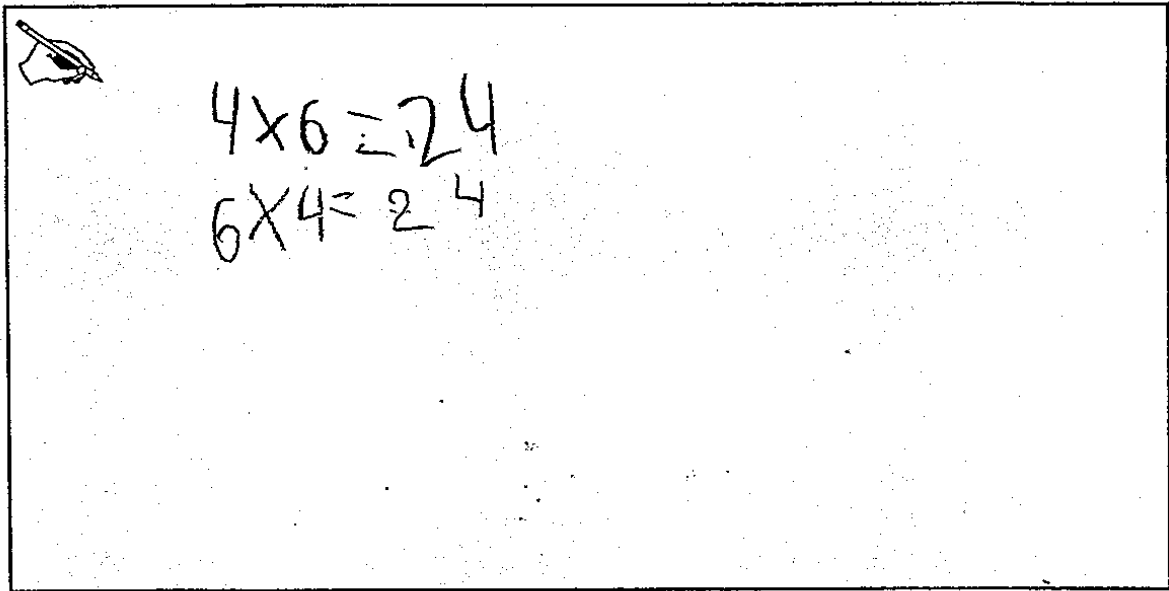


- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.



Anchor 8

Litho 00513200150

Total Content Points: 1 (3.MD.C.7b)

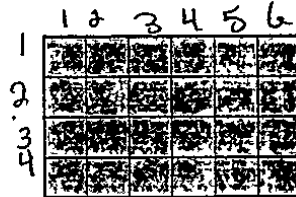
Total Practice Points: 0

In Part A, the student shows a multiplication equation to determine the area of the given rectangle ($6 \times 4 = 24$). In Part C, both equations are accurate representations of the rectangle drawn in Part B ($4 \times 6 = 24$ and $6 \times 4 = 24$) (3.MD.C.7b). The student does not include any labels for any products (no credit for MP6). Since the rectangle drawn in Part B is identical to the rectangle given in Part A, there is no indication that the student makes use of the structure of mathematics to create a second rectangle with an area equivalent to the area of the first rectangle but with a different length and width (no credit for MP7).

Total Awarded Points: 1 out of 3

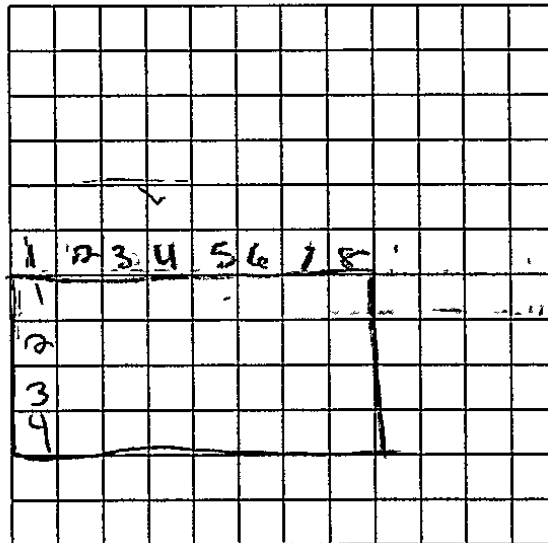
Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.



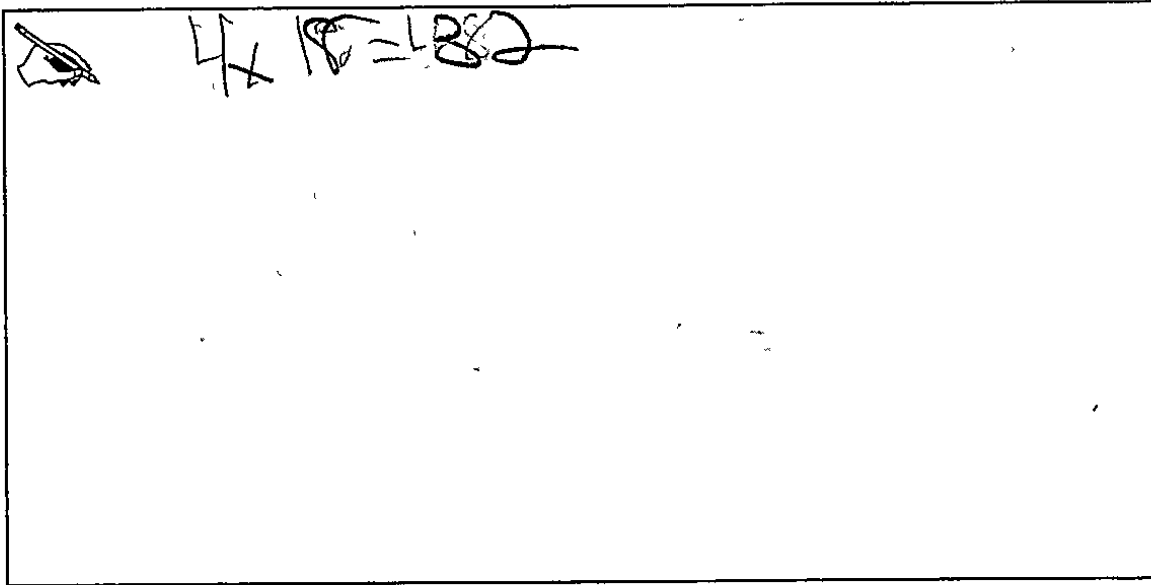
Handwritten work in a rectangular box. On the left is a simple drawing of an eye. To its right is the equation $4 \times 6 = 24$. Below the equation, the text reads: "4 squares going down" and "6 squares going across". To the right of the equation, it says "24 squares in all".

- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c Write a multiplication equation to find the area of the rectangle that you drew in part b.



Anchor 9

Litho 00493200107

Total Content Points: 1 (3.MD.C.7b)

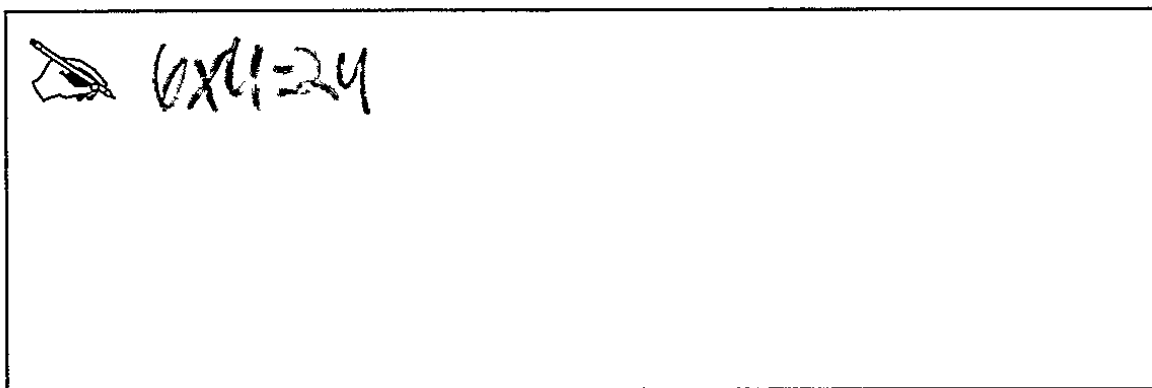
Total Practice Points: 0

In Part A, the student shows a multiplication equation to determine the area of the given rectangle ($4 \times 6 = 24$), and in Part C, shows a multiplication equation to determine the area of the rectangle drawn in Part B ($4 \times 8 = 32$) (3.MD.C.7b). The student does not include precise labels for both products (no credit for MP6). By creating a rectangle with an area of 32 square units in Part B, the student does not make use of the structure of mathematics to create a second rectangle with an area equivalent to the area of the first rectangle (no credit for MP7).

Total Awarded Points: 1 out of 3

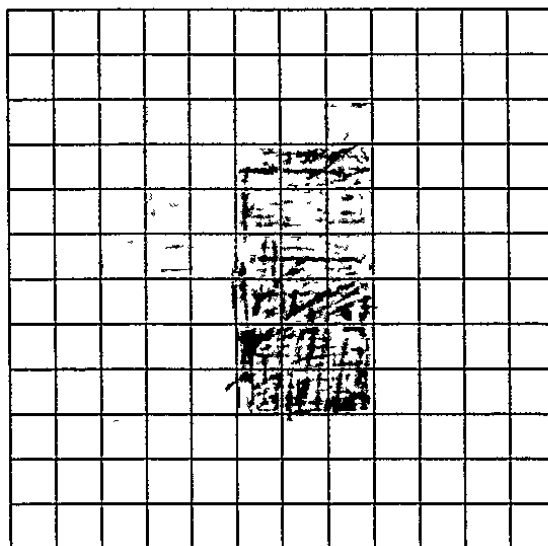
Two Areas Task

- a. Write a multiplication equation to find the area of the rectangle below.



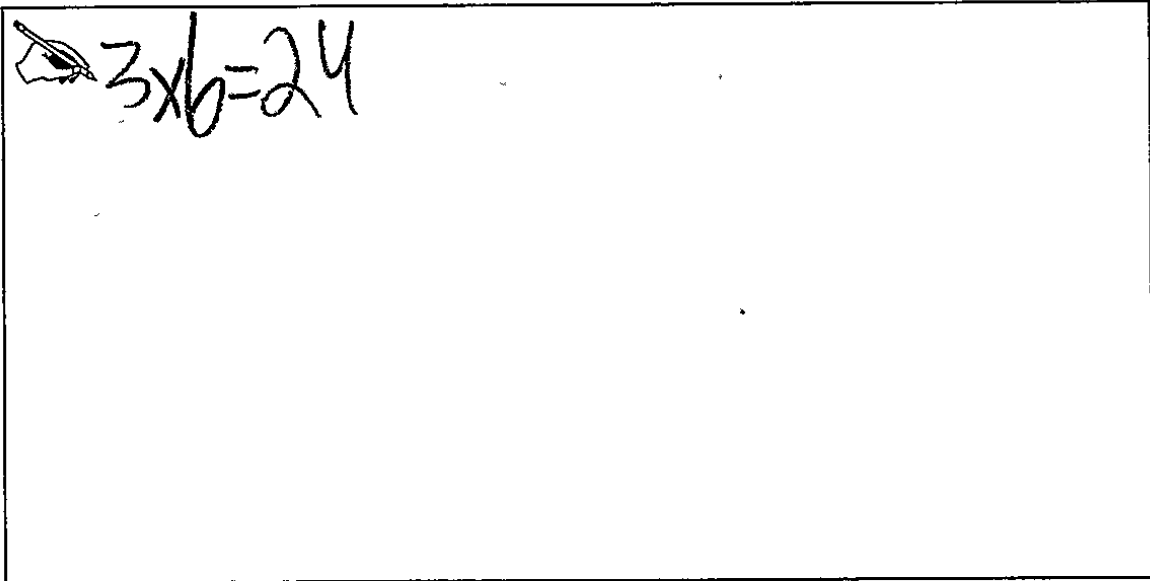
A large rectangular box contains a drawing of a hand holding a pencil on the left side. To the right of the drawing, the handwritten equation $6 \times 4 = 24$ is written.

- b. On the grid below, draw a rectangle that has the same area as the rectangle in part a, but a different length and width.



Two Areas Task

- c. Write a multiplication equation to find the area of the rectangle that you drew in part b.



Anchor 10

Litho 00203200107

Total Content Points: 0

Total Practice Points: 0

In Part A, the student shows a multiplication equation to determine the area of the given rectangle ($6 \times 4 = 24$), but in Part C, shows an incorrect multiplication equation to determine the area of the rectangle drawn in Part B ($3 \times 6 = 24$) (no credit for 3.MD.C.7b). The student does not include any label for either product (no credit for MP6). The student does not make use of the structure of mathematics to create a second rectangle with an area equivalent to the area of the first rectangle (no credit for MP7).

Total Awarded Points: 0 out of 3