



**NEW ENGLAND
COMMON ASSESSMENT PROGRAM**

**Released Items
2005**

**Grade 4
Mathematics**

Mathematics

- ① Look at the information in the box.

9 tens 5 ones 8 hundreds

What number does the information describe?

- A. 589
 - B. 895
 - C. 958
 - D. 985
- ② What decimal represents one-fourth of a dollar?
- A. \$ 0.05
 - B. \$ 0.25
 - C. \$ 2.50
 - D. \$25.00

- ③ Which set of cards is in order from **least to greatest**?

- A.

893	871	854	828
-----	-----	-----	-----
- B.

828	854	871	893
-----	-----	-----	-----
- C.

871	893	854	828
-----	-----	-----	-----
- D.

854	828	871	893
-----	-----	-----	-----

- 4 Anna and Chris are solving this problem.

There are 4 bags of oranges. There are 6 oranges in each bag. How many oranges are there in all?

Anna writes $6+6+6+6 = \square$.

Chris writes $6 \times 4 = \square$.

Who has written a correct number sentence?

- A. only Anna
- B. only Chris
- C. both Anna and Chris
- D. not Anna and not Chris

- 5 Connie baked 7 cakes. She used 3 eggs for each cake. How many eggs did Connie use?

- A. 3
- B. 10
- C. 21
- D. 24

- 6 A shape has

- exactly four angles,
- exactly four sides, and
- sides that are all the same length.

Which could be the shape?

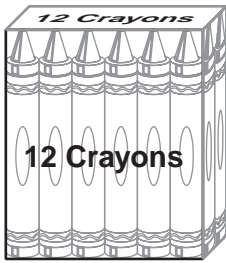
- A. triangle
- B. pentagon
- C. hexagon
- D. rhombus

7 Which object has a mass of about 1 gram?

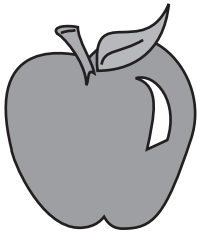
A.



B.



C.



D.



8 Look at this pattern.



What are the next three shapes in the pattern?

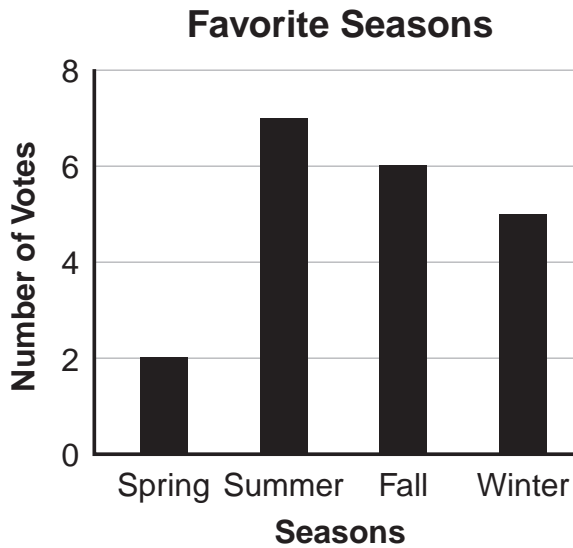
A. ★★□

B. ★□●

C. ●★★

D. □●★

- 9 Look at this bar graph.



How many more votes did the most favorite season receive than the least favorite season?

- A. 4
- B. 5
- C. 6
- D. 7

- 10 Lin wrote down the tool each of his friends uses to draw pictures. Look at Lin's list.

Crayons	Crayons	Colored Pencils
Colored Pencils	Markers	Markers
Markers	Crayons	Markers
Markers	Crayons	Colored Pencils

Which tally chart matches Lin's list?

A.

Tool	Number of Friends
Crayons	
Colored Pencils	
Markers	

B.

Tool	Number of Friends
Crayons	
Colored Pencils	
Markers	

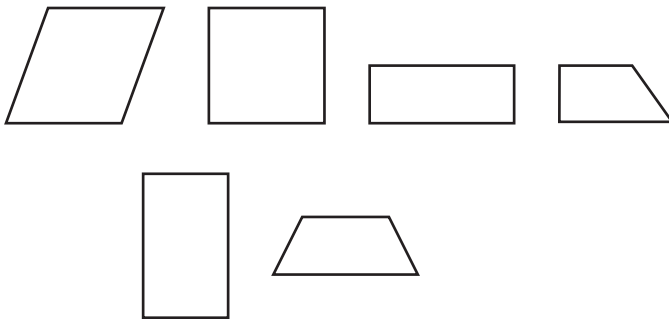
C.

Tool	Number of Friends
Crayons	
Colored Pencils	
Markers	

D.

Tool	Number of Friends
Crayons	
Colored Pencils	
Markers	

11 Look at these six shapes.



Write one way the six shapes are alike.

12 This clock shows the time Terry needed to be at soccer practice.



He was 5 minutes late to practice.

What time did Terry arrive at soccer practice?

- 13 Look at this number sentence.

$$\triangle + \triangle + \triangle = 7 + 2$$

Each triangle has the same value.

What is the value of each triangle?

- 14 Fran has three coins. Each coin has a different value. The total value of the coins is less than 30¢.

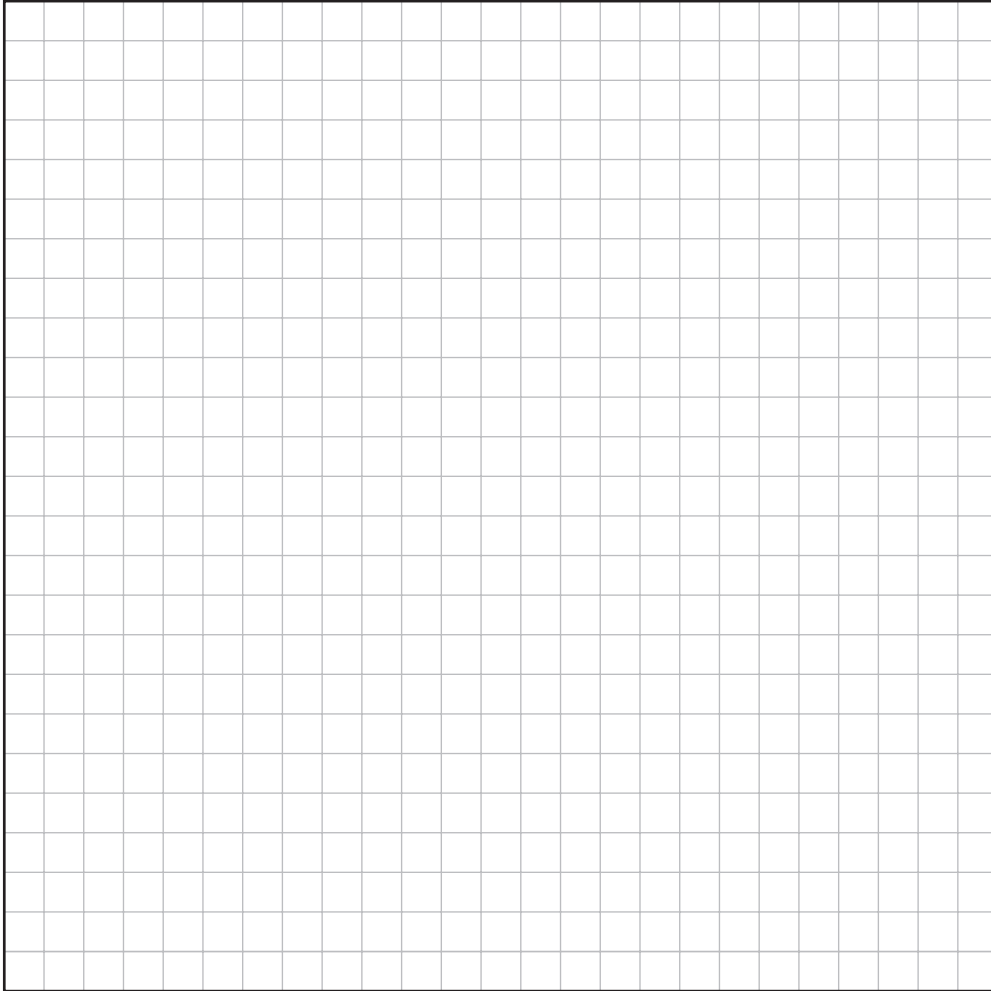
How much money does Fran have? Use a dollar sign (\$) and a decimal point (.) to write your answer. Use numbers, words, or pictures to show your work or explain how you know.

- 15 Jeanne earned \$12.50 babysitting and \$9.75 mowing the lawn. Then she spent \$2.75.

How much money does Jeanne have now? Show your work or explain how you know.

- 16 Maria wants to make a garden with an area of 24 square feet. The garden must be rectangular.

On the grid below, draw 2 different rectangular gardens Maria could make. The distance around each garden must be different.



Key

represents 1 square foot

Grade 4 Mathematics Released Item Information

Released Item Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Calculator Allowed	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓		✓		
Content Strand ¹	NO	NO	NO	NO	NO	GM	GM	FA	DP	DP	GM	GM	FA	NO	NO	GM
GLE Code	3-1	3-1	3-2	3-3	3-4	3-1	3-7	3-1	3-1	3-3	3-1	3-7	3-4	3-1	3-4	3-6
Depth of Knowledge Code	1	1	1	2	1	1	2	2	2	2	2	2	1	3	2	2
Item Type ²	MC	MC	MC	MC	MC	MC	MC	MC	MC	MC	SA	SA	SA	SA	SA	SA
Answer Key	B	B	B	C	C	D	D	B	B	D						
Total Possible Points	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2

¹Content Strand: NO = Numbers & Operations, GM = Geometry & Measurement, FA = Functions & Algebra, DP = Data, Statistics, & Probability

²Item Type: MC = Multiple-Choice, SA = Short Answer



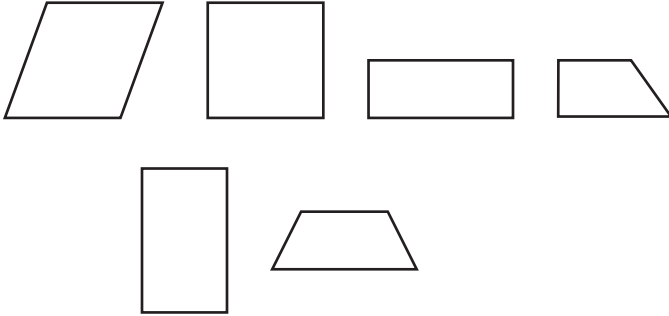
**NEW ENGLAND
COMMON ASSESSMENT PROGRAM**

**Released Items
Support Materials
2005**

**Grade 4
Mathematics**

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

11 Look at these six shapes.



Write one way the six shapes are alike.

Scoring Guide:

Score	Description
1	Student names one correct attribute of all given shapes.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	no response

Sample Responses:

They all have 4 sides.

They all have 4 angles.

They all have 1 pair of parallel sides.

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 1 (EXAMPLE A)

They all have 4 angles.

Student names one correct attribute.

SCORE POINT 1 (EXAMPLE B)

These shapes are alike because they each have four sides

Student names one correct attribute.

SCORE POINT 0 (EXAMPLE A)

There all hexigons

Student names an incorrect attribute.

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

- 12 This clock shows the time Terry needed to be at soccer practice.



He was 5 minutes late to practice.

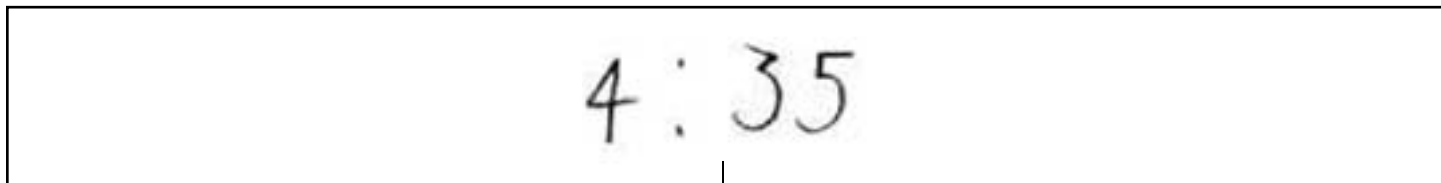
What time did Terry arrive at soccer practice?

Scoring Guide:

Score	Description
1	Student provides correct time, 4:35 .
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	no response

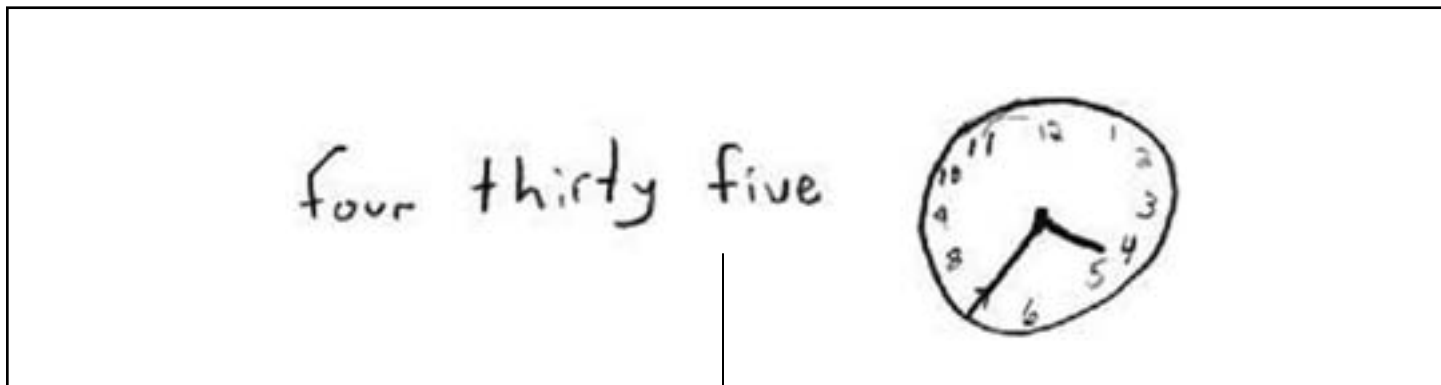
NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 1 (EXAMPLE A)



Student provides correct time.

SCORE POINT 1 (EXAMPLE B)



Student provides correct time.
Note: Student would receive credit for either a correct written response or a correct pictorial response.

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 0 (EXAMPLE A)

4:25

Student's answer is incorrect.

SCORE POINT 0 (EXAMPLE B)

6:24

Student's answer is incorrect.

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

- 13 Look at this number sentence.

$$\triangle + \triangle + \triangle = 7 + 2$$

Each triangle has the same value.

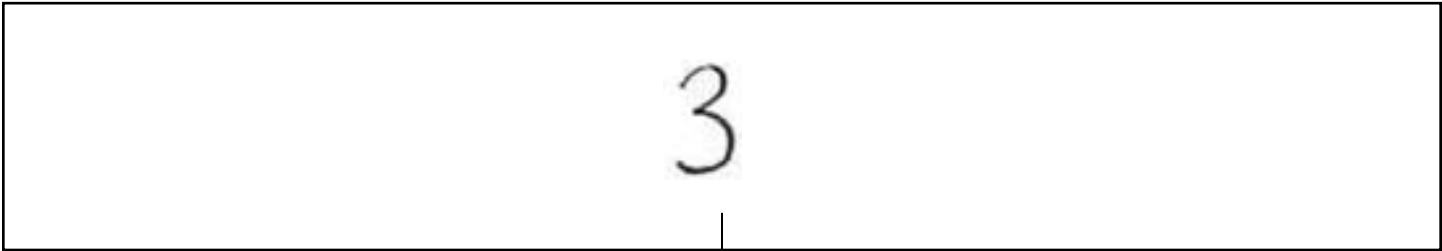
What is the value of each triangle?

Scoring Guide:

Score	Description
1	Student gives correct value of triangle, 3 .
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	no response

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 1 (EXAMPLE A)



Student gives the correct value.

SCORE POINT 1 (EXAMPLE B)

Look at this number sentence.

Student gives the correct value.

$$\begin{array}{cccc} 3 & 3 & 3 & 9 \\ \Delta & + & \Delta & + & \Delta & = & 7 & + & 2 \end{array}$$

Each triangle has the same value.

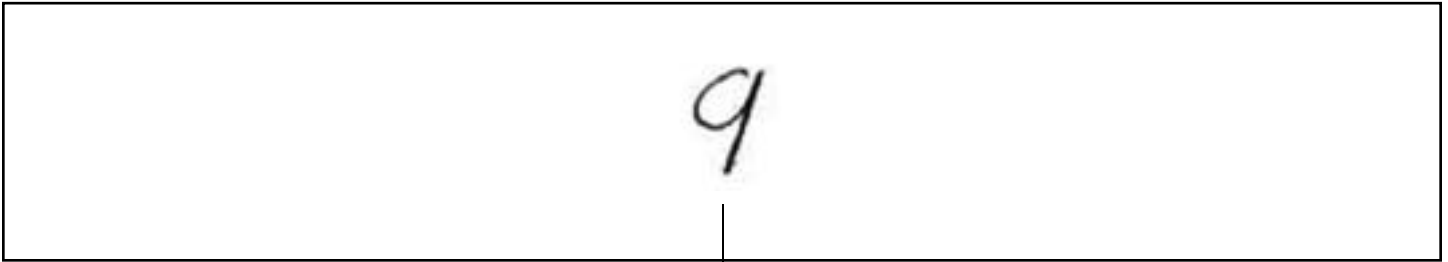
What is the value of each triangle?

9 First I add $7+2=$
then I thought what $\times 3 = 9$?
I knew $3 \times 3 = 9$ so that is your
answer.

Although included and correct, explanation is not necessary for credit.

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 0 (EXAMPLE A)

A large rectangular box with a black border. In the center of the box, the number '9' is written in a cursive, handwritten style.

Student's answer is incorrect.

**NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS**

- 14 Fran has three coins. Each coin has a different value. The total value of the coins is less than 30¢.

How much money does Fran have? Use a dollar sign (\$) and a decimal point (.) to write your answer. Use numbers, words, or pictures to show your work or explain how you know.

Scoring Guide:

Score	Description
2	Student has correct answer, \$0.16 , written with a dollar sign and a decimal point, and gives appropriate strategy or explanation.
1	Student has correct answer, written with a dollar sign and a decimal point. OR Student shows appropriate strategy or explanation.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	no response

Sample Response:

\$0.16; She has a penny, nickel, and dime.

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 2 (EXAMPLE A)

Handwritten student work for Example A. At the top, the student has written $(10) (5) (1) = 16^c$. Below this, the student has written $\$0.16$. A vertical line connects the student's work to the evaluation box below.

Student provides appropriate strategy and has correct answer, with a dollar sign and a decimal point. (2 points)

SCORE POINT 2 (EXAMPLE B)

Handwritten student work for Example B. On the left, the student has written $\$0.16$. To the right, the student has written a paragraph: "I know that Fran has $\$0.16$ because a dime, a nickel and a penny are both different values and they add up to be less than 30¢." A diagonal line connects the student's work to the evaluation box below.

Student provides appropriate strategy and has correct answer, with a dollar sign and a decimal point. (2 points)

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 1 (EXAMPLE A)

\$0.16

Student has correct answer (1 point) with no strategy or work shown (0 points).

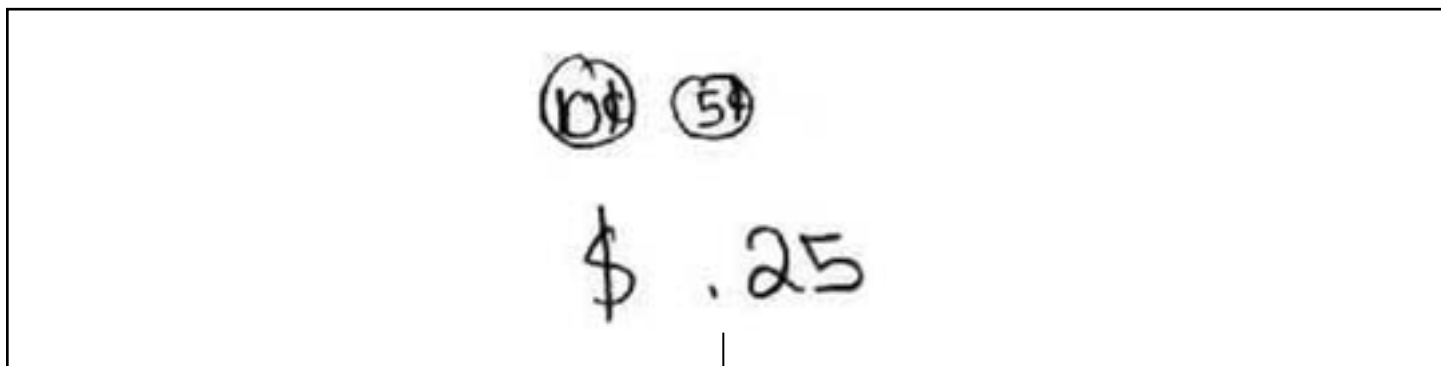
SCORE POINT 1 (EXAMPLE B)

.11¢
.5¢
.10¢ 16¢

Student provides an appropriate strategy (1 point) but does not write answer with a dollar sign and a decimal point (0 points).

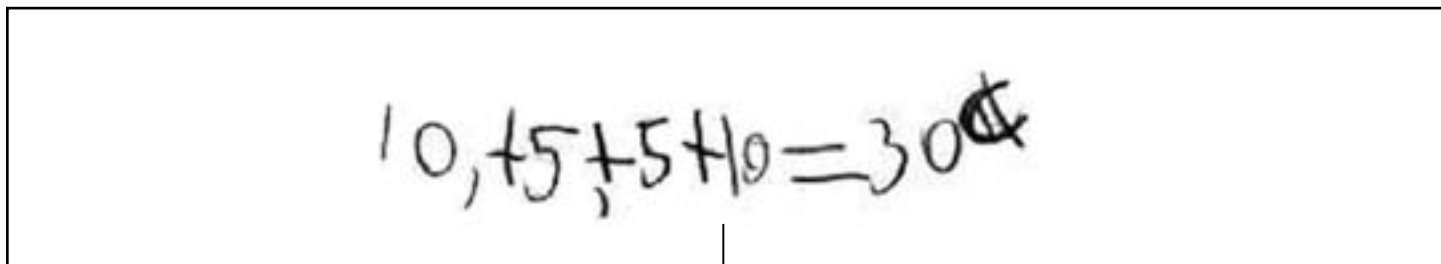
NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 0 (EXAMPLE A)



Student's answer is incorrect.
(0 points)

SCORE POINT 0 (EXAMPLE B)



Student's strategy is incorrect.
(0 points)

**NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS**

- 15 Jeanne earned \$12.50 babysitting and \$9.75 mowing the lawn. Then she spent \$2.75. How much money does Jeanne have now? Show your work or explain how you know.

Scoring Guide:

Score	Description
2	Student writes correct answer, \$19.50 , and provides appropriate strategy or explanation.
1	Student writes correct answer. OR Student provides appropriate strategy or explanation and one correct computation.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	no response

Sample Response:

$$\$12.50 + \$9.75 = \$22.25, \text{ and } \$22.25 - \$2.75 = \$19.50$$

Notes:

- An equation is an acceptable explanation.
- One transposition or one copy error (can only drop or transpose 1 digit) with all computations correct receives a score 2

Example of transposition error: $\$12.50 + \$9.57 = \$22.07$, and $\$22.07 - \$2.75 = \$19.32$

Example of copy error: $\$12.50 + \$9.75 = \$22.25$, and $\$22.25 - \$2.55 = \$19.70$

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 2 (EXAMPLE A)

The
answer is \$19.50

$$\begin{array}{r} 12.50 \\ + 9.75 \\ \hline 22.25 \end{array}$$
$$\begin{array}{r} 22.25 \\ - 2.75 \\ \hline 19.50 \end{array}$$

Student provides an appropriate strategy and has correct answer. (2 points)

SCORE POINT 2 (EXAMPLE B)

If you take \$2.75 and subtract that from \$9.75 you get \$7.00. Then if you take \$7.00 and add it to \$12.50 you get \$19.50. She has \$19.50

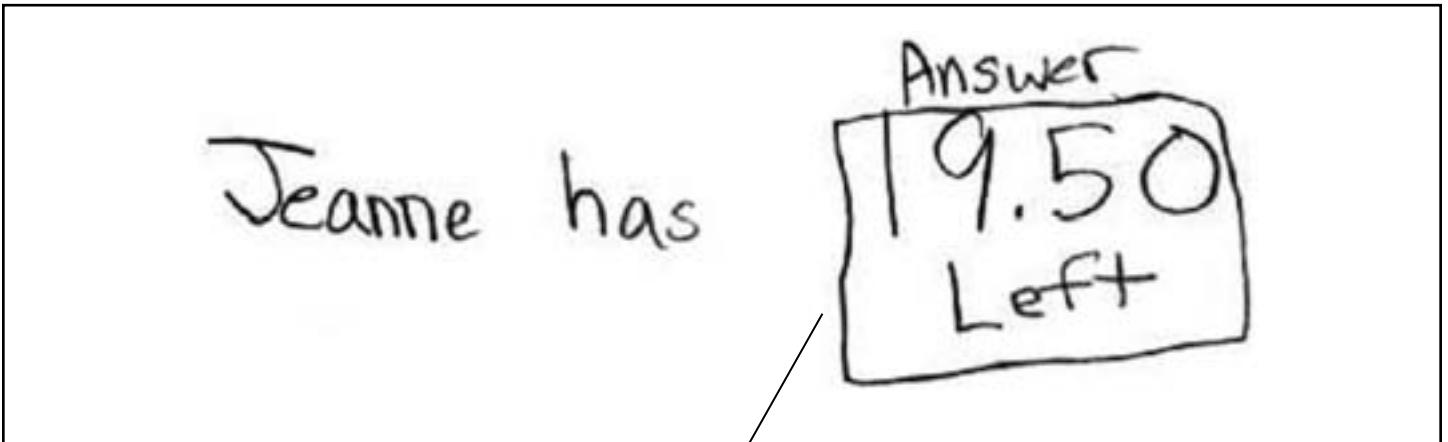
Student provides an appropriate strategy and has correct answer. (2 points)

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 1 (EXAMPLE A)

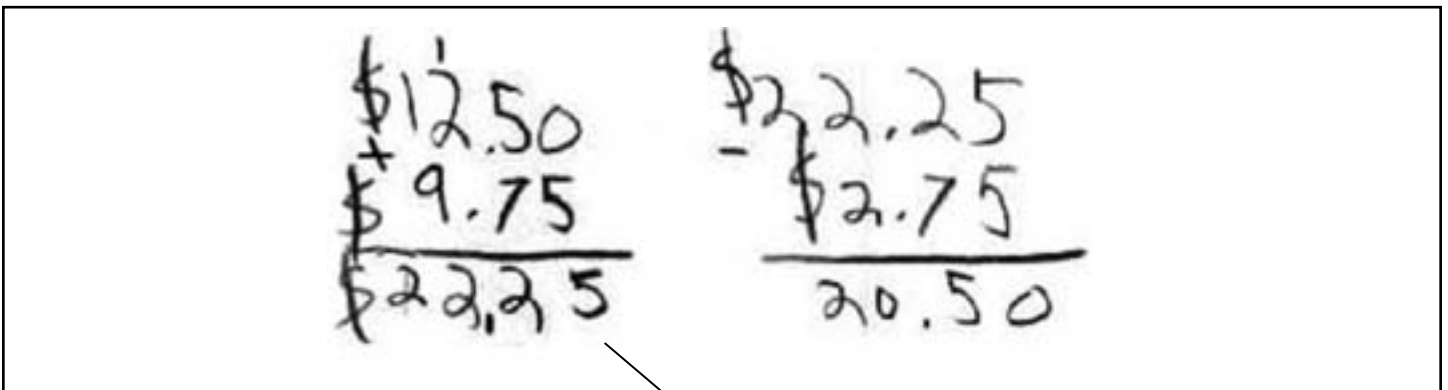
Jeanne has

Answer
9.50
Left



Student has correct answer (1 point) with no strategy or work shown (0 points).

SCORE POINT 1 (EXAMPLE B)

$$\begin{array}{r} \$12.50 \\ + \$9.75 \\ \hline \$22.25 \end{array}$$
$$\begin{array}{r} \$22.25 \\ - \$2.75 \\ \hline 20.50 \end{array}$$


Student provides an appropriate strategy with one correct computation. (1 point)

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 0 (EXAMPLE A)

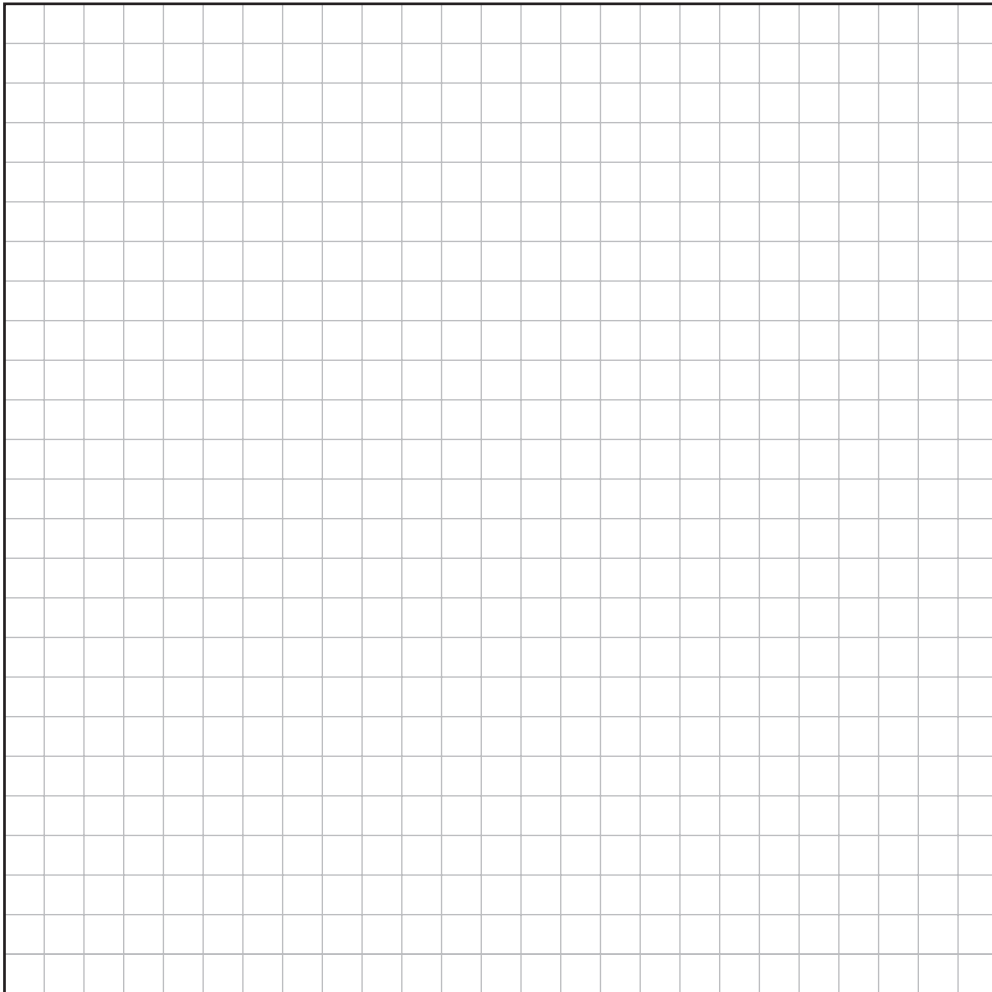
$$\$12.50 + \$9.75 = \$13.25$$

Student's strategy is incorrect.
(0 points)

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

- 16 Maria wants to make a garden with an area of 24 square feet. The garden must be rectangular.

On the grid below, draw 2 different rectangular gardens Maria could make. The distance around each garden must be different.



Key

represents 1 square foot

**NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS**

Scoring Guide:

Score	Description
2	Student draws two distinct rectangles with dimensions yielding an area of 24 square feet.
1	Student draws one distinct rectangle with dimensions yielding an area of 24 square feet.
0	Response is incorrect or contains some correct work that is irrelevant to the skill or concept being measured.
Blank	no response

Correct dimension examples:

1 foot by 24 feet

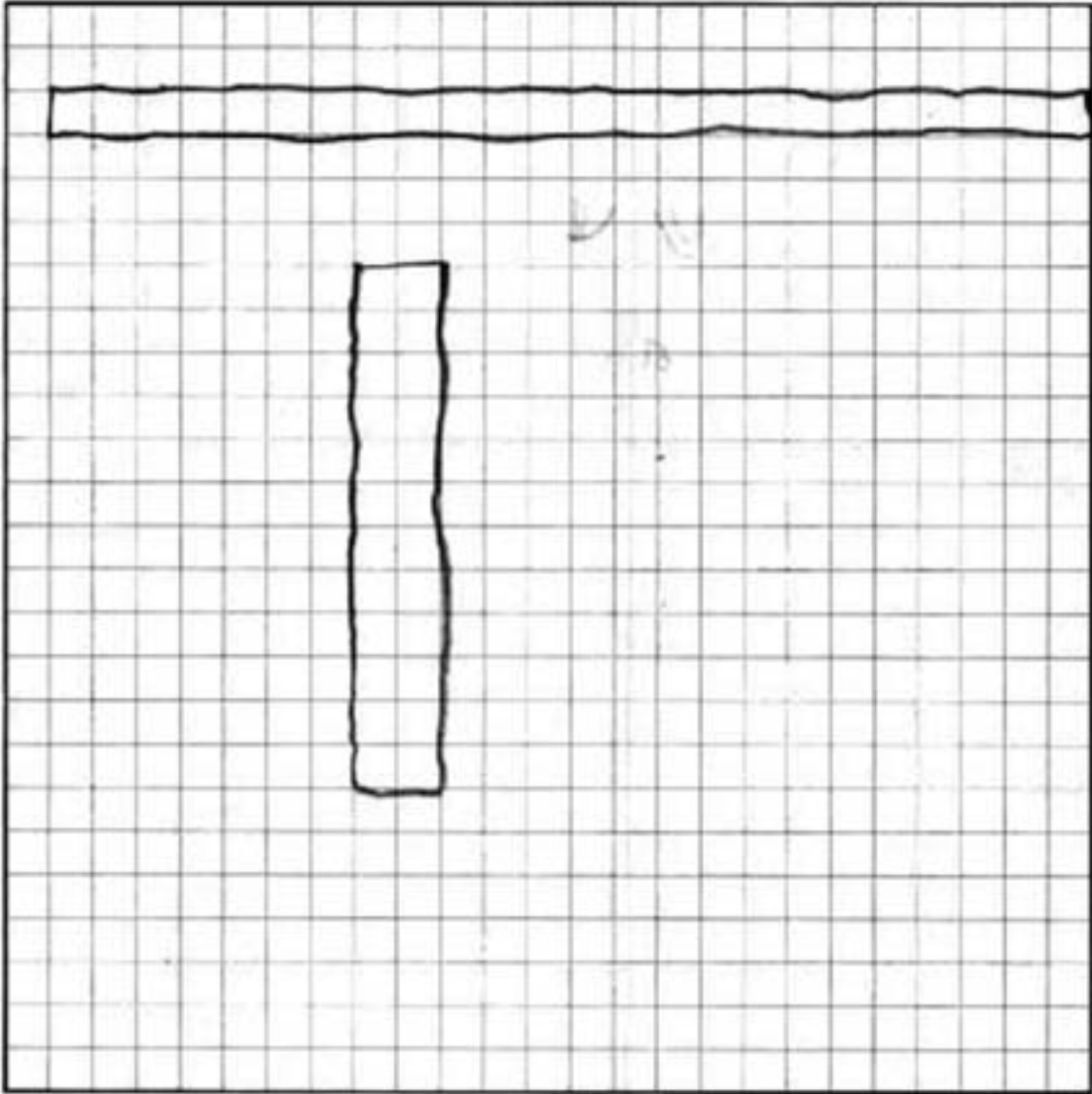
2 feet by 12 feet

3 feet by 8 feet

4 feet by 6 feet

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

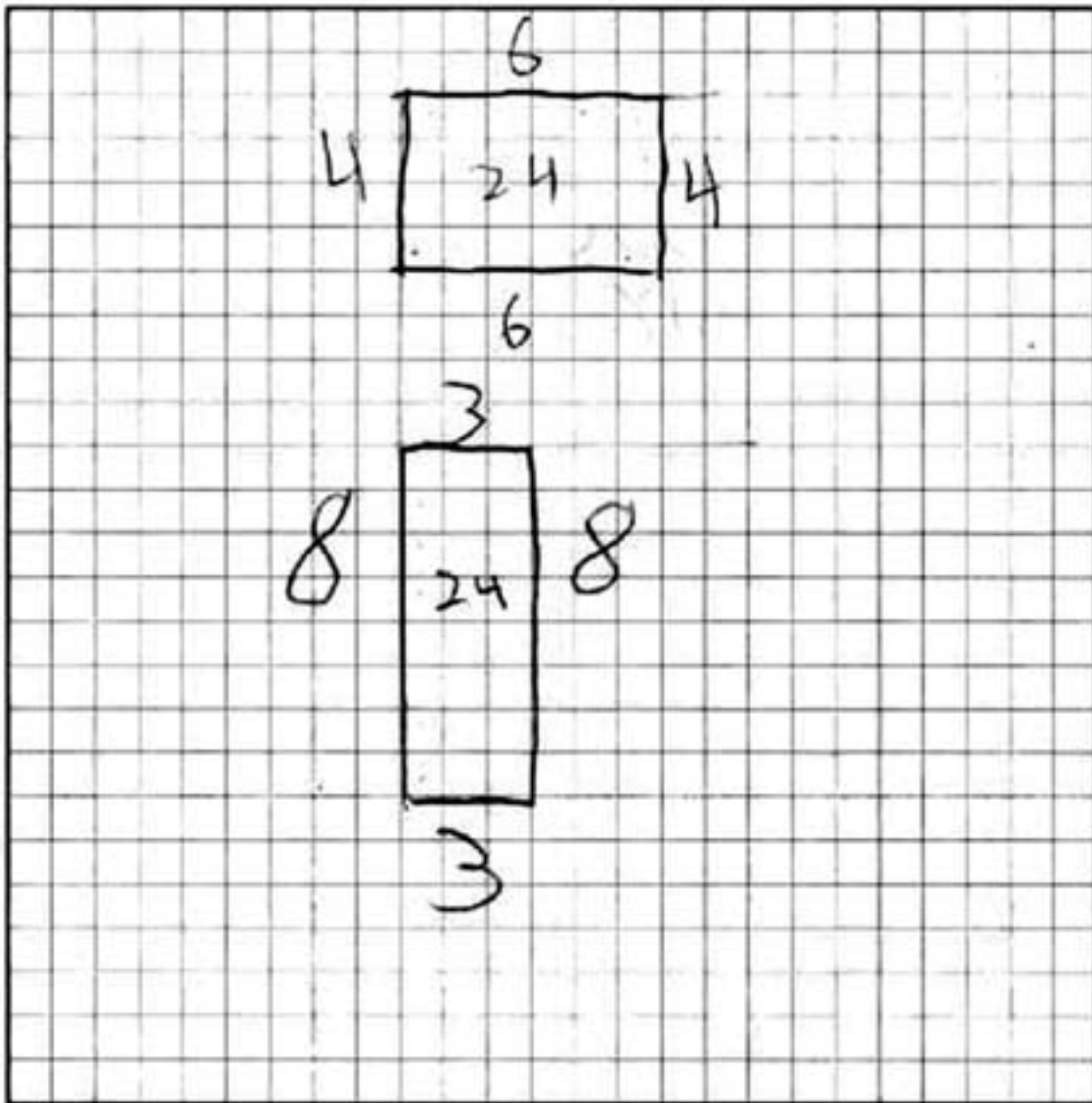
SCORE POINT 2 (EXAMPLE A)



Student draws two noncongruent rectangles, each with an area of 24 square feet. (2 points)

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

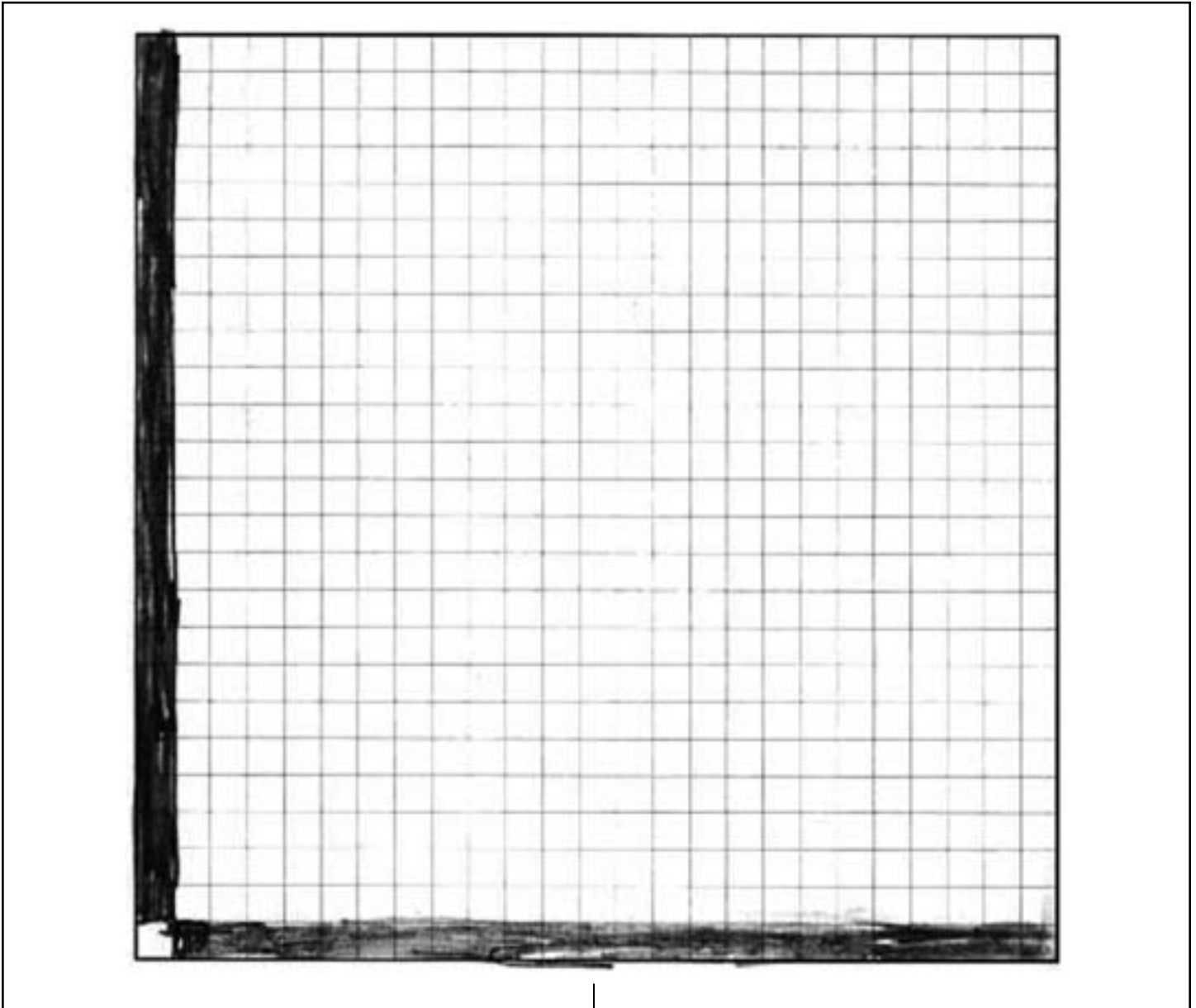
SCORE POINT 2 (EXAMPLE B)



Student draws two noncongruent rectangles, each with an area of 24 square feet. (2 points)

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

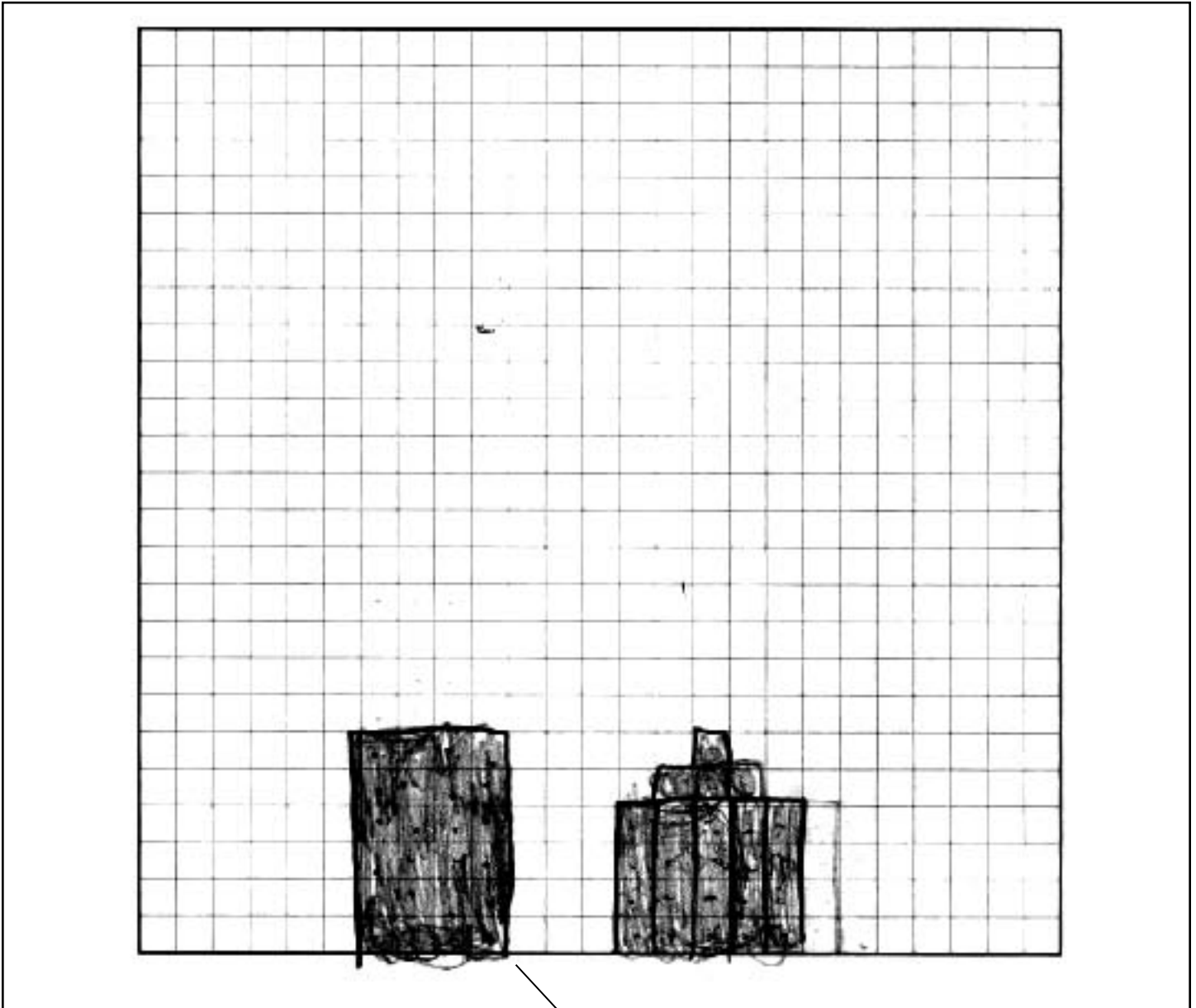
SCORE POINT 1 (EXAMPLE A)



Student draws two congruent rectangles, each with an area of 24 square feet. (1 point)

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

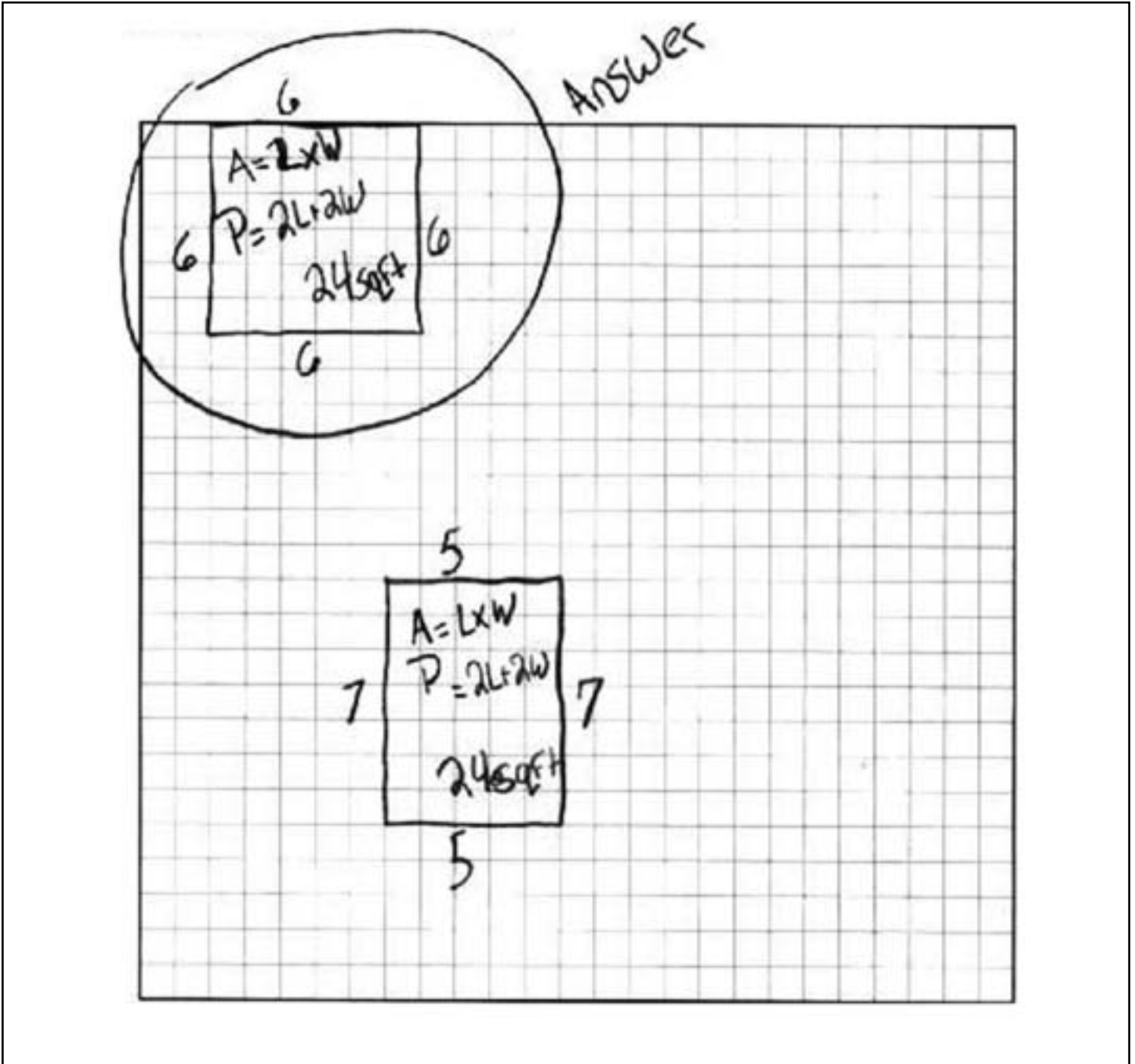
SCORE POINT 1 (EXAMPLE B)



Student draws one rectangle with an area of 24 square feet. (1 point)

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

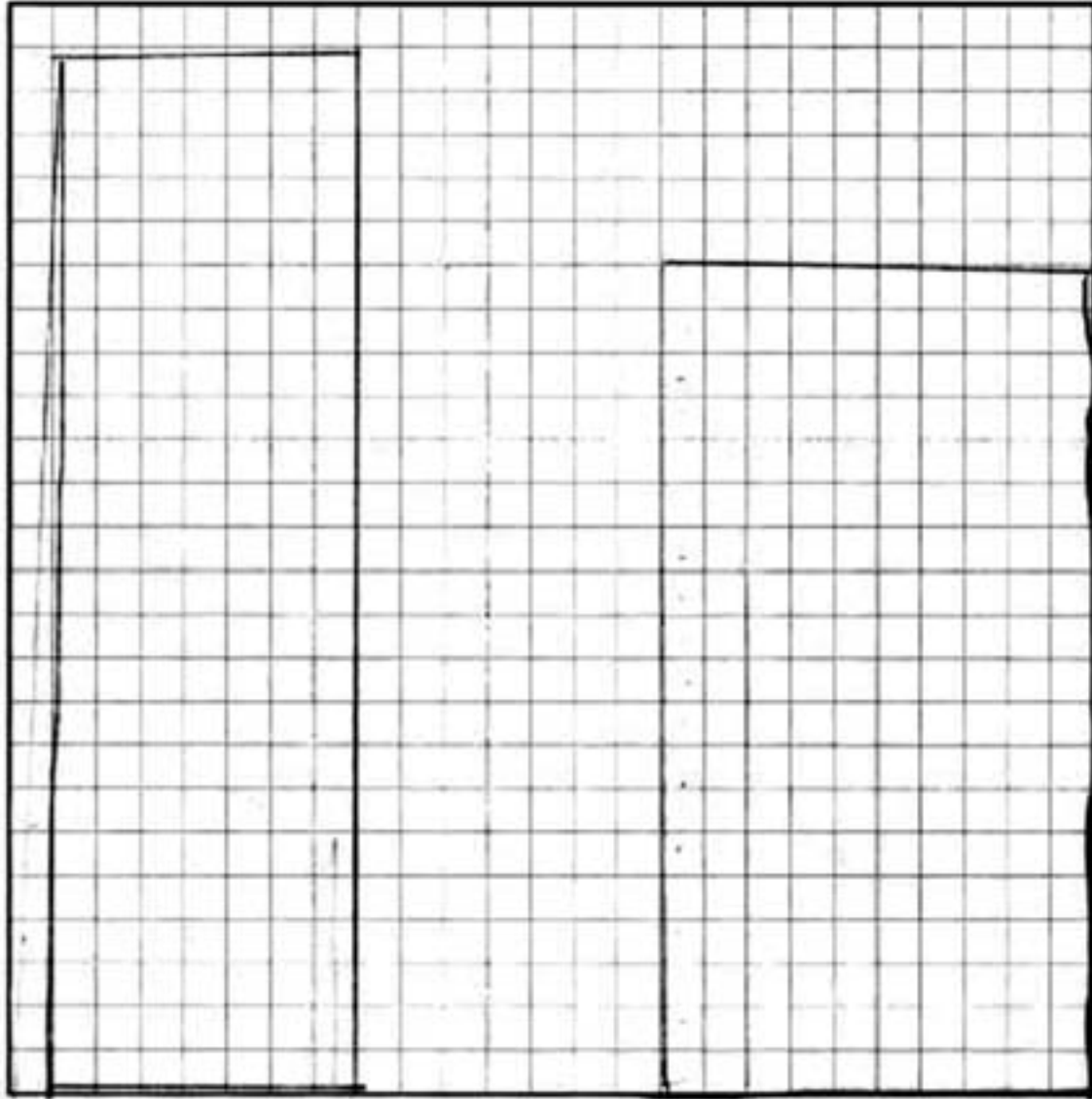
SCORE POINT 0 (EXAMPLE A)



Student's response is incorrect because student shows two noncongruent rectangles with the same perimeter and different areas. (0 points)

NECAP 2005 RELEASED ITEMS
GRADE 4 MATHEMATICS

SCORE POINT 0 (EXAMPLE B)



Student shows two noncongruent rectangles that do not have the correct area of 24 square feet. (0 points)