New York State Testing Program

Mathematics

Scoring Guide for Sample Test 2005

Grade 8

Contents

Strand and Performance Indicator Map with Answer Key

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4	Multiple Choice	1	Algebra	8.A.7	J
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6	Multiple Choice	1	Geometry	8.G.3	G
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Strand and Performance Indicator Map with Answer Key

Grade 8, Book 2					
Question	Type	Points	Strand	Content Performance Indicator	Answer Key
28	Selected Response	2	Algebra	8.A.7	n/a
29	Selected Response	2	Measurement	7.M.1	n/a
30	Selected Response	2	Algebra	7.A.10	n/a
31	Selected Response	2	Geometry	7.G.8	n/a
32	Extended Response	3	Geometry	8.G.8	n/a
33	Extended Response	3	Algebra	7.A.4	n/a
Grade 8, Book 3					
34	Selected Response	2	Algebra	7.A.10	n/a
35	Selected Response	2	Geometry	8.G.11	n/a
36	Selected Response	2	Measurement	8.M.1	n/a
37	Extended Response	3	Algebra	8.A.12	n/a
38	Selected Response	2	Geometry	8.G.10	n/a
39	Extended Response	3	Algebra	7.A.4	n/a
40	Selected Response	2	Number Sense and Operations	8.N.4	n/a
41	Extended Response	3	Geometry	8.G.5	n/a
42	Selected Response	2	Algebra	7.A.4	n/a
43	Selected Response	2	Geometry	8.G.2	n/a
44	Selected Response	2	Measurement	7.M.5	n/a
45	Extended Response	3	Algebra	8.A.12	n/a

2-Point Holistic Rubric

Score Points:

2 Points	A two-point response is complete and correct.
	This response
	• demonstrates a thorough understanding of the mathematical concepts and/or procedures embodied in the task
	• indicates that the student has completed the task correctly, using mathematically sound procedures
	• contains clear, complete explanations and/or adequate work when required
1 Point	A one-point response is only partially correct.
	This response
	• indicates that the student has demonstrated only a partial understanding of the mathematical concepts and/or procedures embodied in the task
	• addresses some elements of the task correctly but may be incomplete or contain some procedural or conceptual flaws
	• may contain an incorrect solution but applies a mathematically appropriate process
	• may contain a correct numerical answer but required work is not provided
0 Points	A zero-point response is incorrect, irrelevant, incoherent, or contains a correct response arrived at using an obviously incorrect procedure. Although some parts may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

Condition Code A

Condition Code A is applied whenever a student who is present for a test session leaves an <u>entire</u> open-ended item in that session blank (no response).

3-Point Holistic Rubric

Score Points:

3 Points	A three-point response is complete and correct. This response • demonstrates a thorough understanding of the mathematical concepts and/or procedures embodied in the task • indicates that the student has completed the task correctly, using mathematically sound procedures • contains clear, complete explanations and/or adequate work when required
2 Points	A two-point response is partially correct. This response • demonstrates partial understanding of the mathematical concepts and/or procedures embodied in the task • addresses most aspects of the task, using mathematically sound procedures • may contain an incorrect solution but provides complete procedures, reasoning, and/or explanations • may reflect some misunderstanding of the underlying mathematical concepts and/or procedures
1 Point	A one-point response is incomplete and exhibits many flaws but is not completely incorrect. This response • demonstrates only a limited understanding of the mathematical concepts and/or procedures embodied in the task • may address some elements of the task correctly but reaches an inadequate solution and/or provides reasoning that is faulty or incomplete • exhibits multiple flaws related to a misunderstanding of important aspects of the task, misuse of mathematical procedures, or faulty mathematical reasoning • reflects a lack of essential understanding of the underlying mathematical concepts • may contain a correct numerical answer but required work is not provided
0 Points	A zero-point response is incorrect, irrelevant, incoherent, or contains a correct response arrived at using an obviously incorrect procedure. Although some parts may contain correct mathematical procedures, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

Scoring Policies for Mathematics

1. If the question does **not** specifically direct students to show their work, teachers may **not** score any work that the student shows.

2. If the student does the work in other than a designated "Show your work" area, that work may still be scored.

3. If the question requires students to show their work, and a student shows appropriate work and clearly identifies a correct answer but fails to write the answer in that answer blank, the student should still receive full credit.

4. If the question requires students to show their work, and a student shows appropriate work and arrives at the correct answer but writes an incorrect answer in the answer blank, the student may **not** receive full credit.

5. If the student provides one legible response (and one response only), teachers should score the response, even if it has been crossed out.

6. If the student has written more than one response but has crossed some out, teachers should score only the response that has not been crossed out.

7. For questions in which students use a trial-and-error (guess-and-check) process, evidence of three rounds of trial-and-error must be present for the student to receive credit for the process. Trial-and-error items are **not** subject to Scoring Policy #6, since crossing out is part of the trial-and-error process.

8. If a response shows repeated occurrences of the same conceptual error within a question, the student should not be penalized more than once.

9. In questions that provide ruled lines for the students to write an explanation of their work, mathematical work shown elsewhere on the page may be considered and scored if, and only if, the student explicitly points to the work as part of the answer.

10. Responses containing a conceptual error may **not** receive more than fifty percent of the maximum score.

11. In all questions that provide a response space for one numerical answer and require work to be shown, if the correct numerical answer is provided but no work is shown, the score is 1.

12. In all questions that provide response spaces for two numerical answers and require work to be shown for both parts, if one correct numerical answer is provided but no work is shown in either part, the score is 0. If two correct numerical answers are provided but no work is shown in either part, the score is 1.

13. In all 3-point questions that provide response spaces for two numerical answers and require work to be shown in one part, if two correct numerical answers are provided but no work is shown, the score is 2.

Content-Specific Scoring Clarifications for Mathematics Tests

1. All necessary signs of operation should be present for work to be considered mathematically complete and correct. If signs of operation in the work shown are missing and it is absolutely clear and apparent in the student's work which operation is being used, and all other work required is correct, the student should receive full credit.

2. In questions that require students to provide bar graphs, touching bars are acceptable only at Grades 3 and 4.

3. If the question asks the student to provide an expression and the student provides an equation, this is an acceptable response at Grades 3 and 4 only.

For additional clarification, see the web site http://www.emsc.nysed.gov/ciai/mst/instructrec.htm.
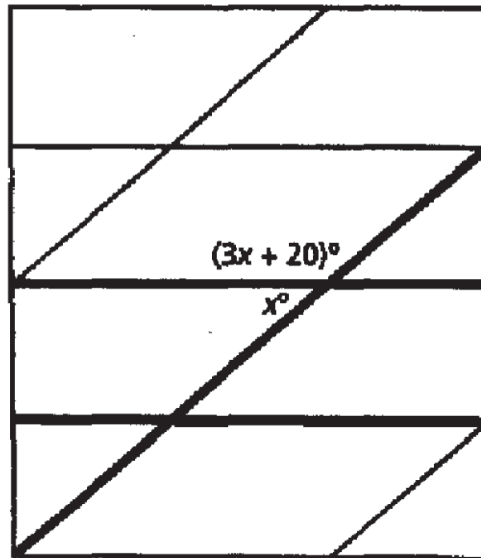
28 Monisha is making a quilt following the pattern shown below.

If all the horizontal lines are parallel, what is the value of x?

Show your work.

Answer _____

QUESTION 28

Complete and Correct Response:

- $x + 3x + 20 = 180$
  $4x + 20 = 180$
  $\underline{-20 \quad -20}$

  $\dfrac{4x}{4} = \dfrac{160}{4}$

  $x = 40$

OR other valid process

AND

- 40
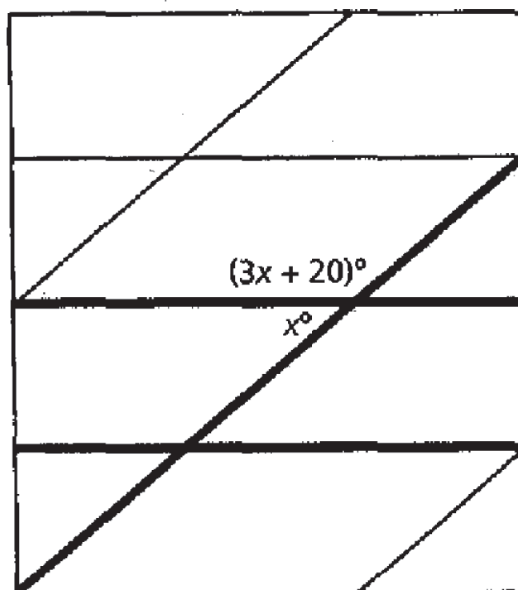
Score Points:

Apply 2-point holistic rubric

28 Monisha is making a quilt following the pattern shown below.

If all the horizontal lines are parallel, what is the value of *x*?

Show your work.

$$4x + 20 = 180$$
$$ -20 \quad -20$$
$$\frac{4x}{4} = \frac{160}{4}$$
$$x = 40$$

Answer ____40°____

This response is complete and correct.

Score Point - 2

28 Monisha is making a quilt following the pattern shown below.
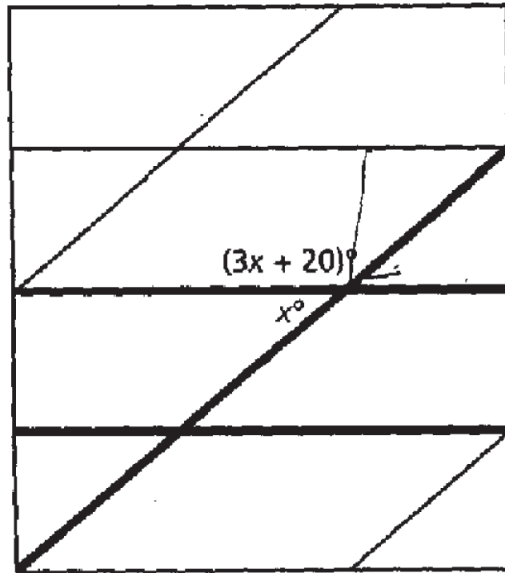
If all the horizontal lines are parallel, what is the value of *x*?

Show your work.

$$3x + 20 = 180$$
$$-20 \quad -20$$
$$\overline{3x = 160}$$
$$\frac{3x}{3} \qquad \frac{160}{3}$$
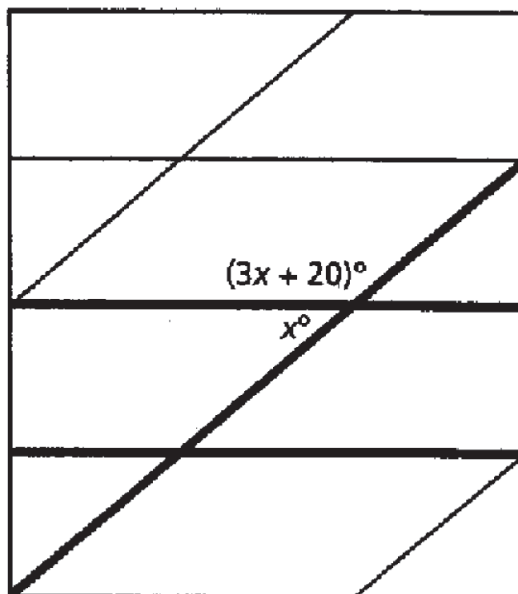$$\overline{X = 53.3}$$

Answer ___53°___

This response is only partially correct. Although the answer is incorrect, some elements of the task are addressed by correctly solving the flawed equation to find the value of *x*.

Score Point - 1

28 Monisha is making a quilt following the pattern shown below.

If all the horizontal lines are parallel, what is the value of x?
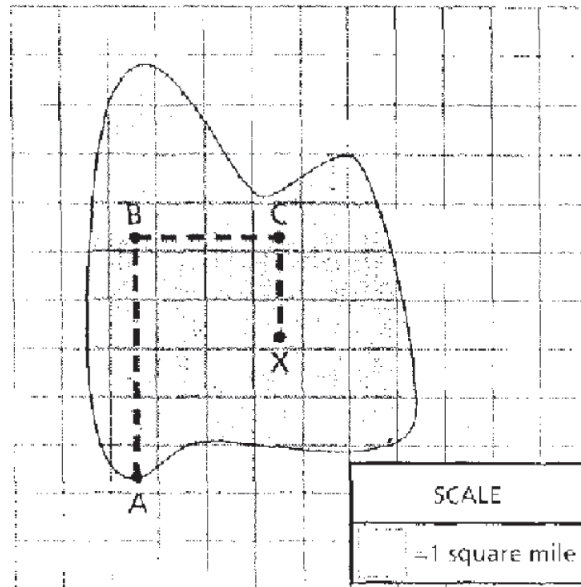
Show your work.

$$3(X) = 0 + 20 = 20°$$

Answer _____ $20°$ _____

This response is completely incorrect.

Score Point - 0

29 A path on a treasure map is shown on the grid below.

Complete the table below to calculate the total length of the path.

ISLAND PATH

Path Section	Length (in miles)
Length of $\overline{AB}$	
Length of $\overline{BC}$	
Length of $\overline{CX}$	
Total Path Length	

QUESTION 29

Complete and Correct Response:

ISLAND PATH

Path Section	Length (in miles)
Length of $\overline{AB}$	5
Length of $\overline{BC}$	3
Length of $\overline{CX}$	2
Total Path Length	10

OR other valid response

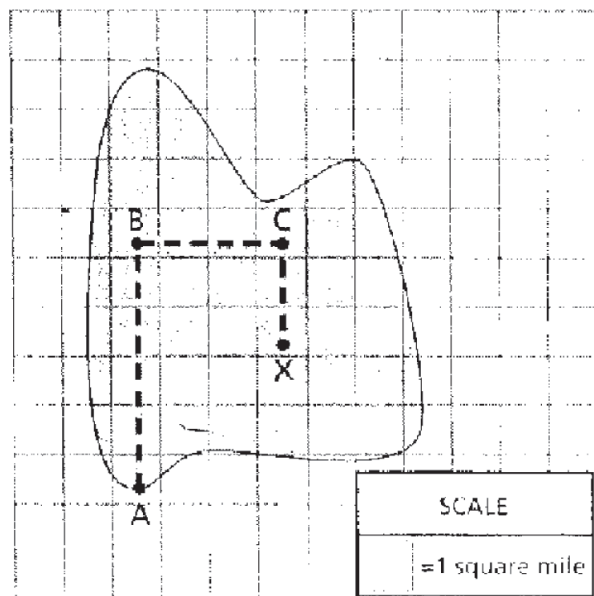Note: Full credit should be given when all measurements are provided and within ± 0.1

Partial credit should be given when two measurements are provided and within ± 0.25

Score Points:

Apply 2-point holistic rubric

29 A path on a treasure map is shown on the grid below.

Complete the table below to calculate the total length of the path.
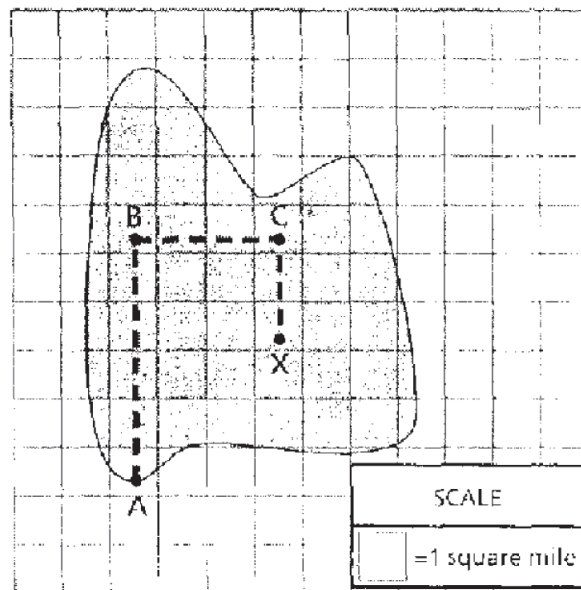
ISLAND PATH

Path Section	Length (in miles)
Length of $\overline{AB}$	5
Length of $\overline{BC}$	3
Length of $\overline{CX}$	2
Total Path Length	10

This response is complete and correct.

Score Point - 2

29 A path on a treasure map is shown on the grid below.

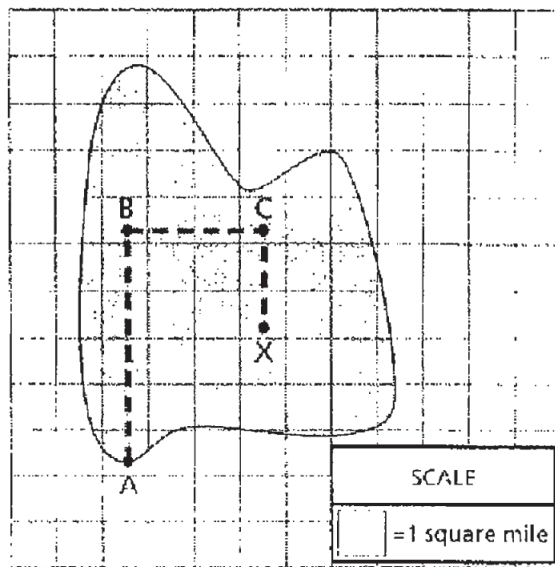Complete the table below to calculate the total length of the path.

ISLAND PATH

Path Section	Length (in miles)
Length of $\overline{AB}$	4.25 miles
Length of $\overline{BC}$	3 miles
Length of $\overline{CX}$	2.10 miles
Total Path Length	9.35

This response is only partially correct. Two path sections are measured within an appropriate range of .25 miles.

Score Point - 1

29 A path on a treasure map is shown on the grid below.

Complete the table below to calculate the total length of the path.

ISLAND PATH

Path Section	Length (in miles)
Length of $\overline{AB}$	5 miles
Length of $\overline{BC}$	4 miles
Length of $\overline{CX}$	3 miles
Total Path Length	12 mies

This response is completely incorrect. Two of the three path section lengths are not measured within an appropriate range.

Score Point - 0

30 The function table below follows a function rule.

x	y
0.5	2
1	1
2	0.5
4	0.25
5	
10	

Part A

Complete the table by filling in the two missing numbers.

Part B

Based on the table, write a function rule that represents the relationship between x and y.

Rule _____

QUESTION 30

STRAND 2: ALGEBRA

Complete and Correct Response:

Part A

x	y
0.5	2
1	1
2	0.5
4	0.25
5	0.2
10	0.1

OR other correct responses (such as fractional notation)

Part B

- $y = \dfrac{1}{x}$ or $x \cdot y = 1$

OR other valid rule including a verbal description which can be written as an equation

Score Points:

Apply 2-point holistic rubric

30 The function table below follows a function rule.

x	y
0.5	2
1	1
2	0.5
4	0.25
5	.2
10	.1

Part A

Complete the table by filling in the two missing numbers.

Part B

Based on the table, write a function rule that represents the relationship between *x* and *y*.

Rule $y = \frac{1}{x}$ _____

This response is complete and correct.

Score Point - 2

30 The function table below follows a function rule.

x	y
0.5	2
1	1
2	0.5
4	0.25
5	0.20
10	0.10

Part A

Complete the table by filling in the two missing numbers.

Part B

Based on the table, write a function rule that represents the relationship between x and y.

Rule _____ $X \div 1 = y$ _____

This response is only partially correct. The table is completed correctly in Part A. However, an incorrect function rule is provided in Part B.

Score Point - 1

30 The function table below follows a function rule.

x	y
0.5	2
1	1
2	0.5
4	0.25
5	0.125
10	.0625

Part A

Complete the table by filling in the two missing numbers.

Part B

Based on the table, write a function rule that represents the relationship between x and y.

Rule X is multiplied by 2 and y is divided by 2

This response is completely incorrect.

Score Point - 0

31 Jenna has a triangular garden, as shown in the diagram below.
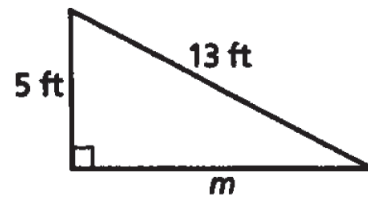
[not drawn to scale]

What is the length, in feet, of side m?

Show your work.

Answer _____ feet

QUESTION 31

STRAND 3: GEOMETRY

Complete and Correct Response:

- $13^2 = m^2 + 5^2$
  $169 = m^2 + 25$
  $m^2 = 169 - 25$
  $m^2 = 144$
  $m = \sqrt{144}$
  $m = 12$

OR other valid process
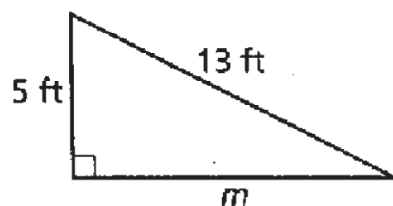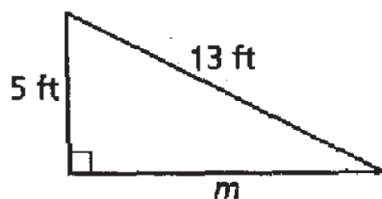
AND

- 12 feet

Score Points:

Apply 2-point holistic rubric

31 Jenna has a triangular garden, as shown in the diagram below.

13 ft

5 ft

m

[not drawn to scale]

What is the length, in feet, of side m?

Show your work.

$$a^2 + b^2 = c^2$$
$$5^2 + m^2 = 13^2$$
$$25 + m^2 = 169$$
$$-25 \qquad -25$$
$$\overline{\qquad m^2 = 144}$$
$$\sqrt{144} = 12$$
$$m = 12$$

Answer _____12_____ feet

This response is complete and correct.

Score Point - 2

31 Jenna has a triangular garden, as shown in the diagram below.

[not drawn to scale]

What is the length, in feet, of side *m*?

Show your work.

$$A^2 + b^2 = C^2$$
$$5^2 + b^2 = 13^2$$
$$25 + b^2 = 13^2$$
$$\underline{-25 \qquad -25}$$
$$b^2 = 12^2$$
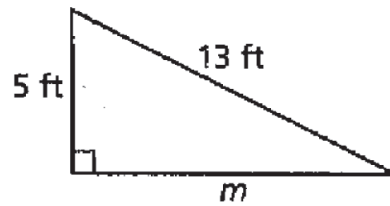$$b = \sqrt{12}$$
$$b = 3.4641016$$

Answer _____3.5_____ feet

This response is only partially correct. The lengths of the sides are correctly substituted into the Pythagorean Theorem equation; however, the procedure for solving the equation is flawed, resulting in an incorrect answer.

Score Point - 1

31 Jenna has a triangular garden, as shown in the diagram below.

[not drawn to scale]

What is the length, in feet, of side *m*?

Show your work.

$$5^2 + m^2 + 13^2$$
$$-5^2 \qquad -5^2$$
$$m^2 = 8^2$$

Answer _____ 8^2 _____ feet

This response is completely incorrect. Although an attempt to use square values is indicated by 5 squared and 13 squared, there is not a clear initial equation using the Pythagorean Theorem.
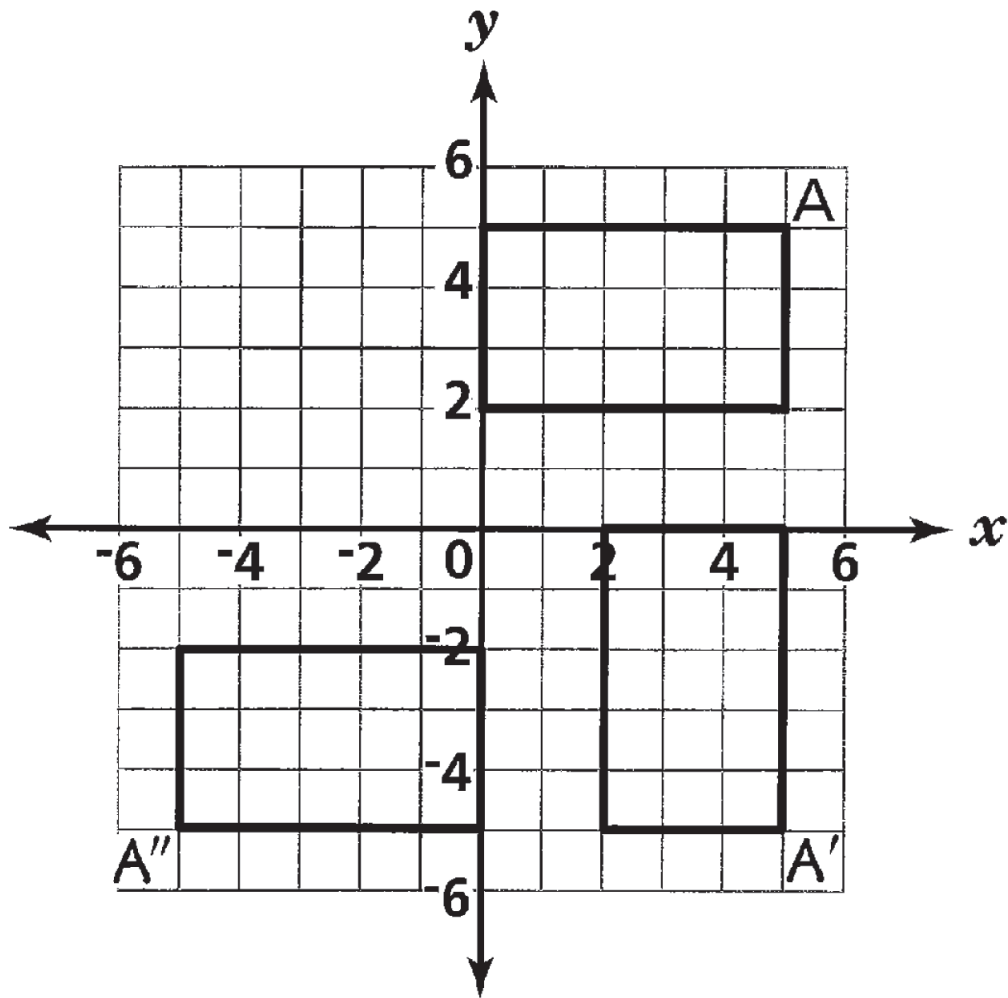
Score Point - 0

32 Brian drew a rectangle on the grid below. On the same grid, rotate the rectangle **both** 90° and 180° clockwise about the origin. Label point A from the rectangle Brian drew as A' on your 90° rotated figure and as A″ on your 180° rotated figure.
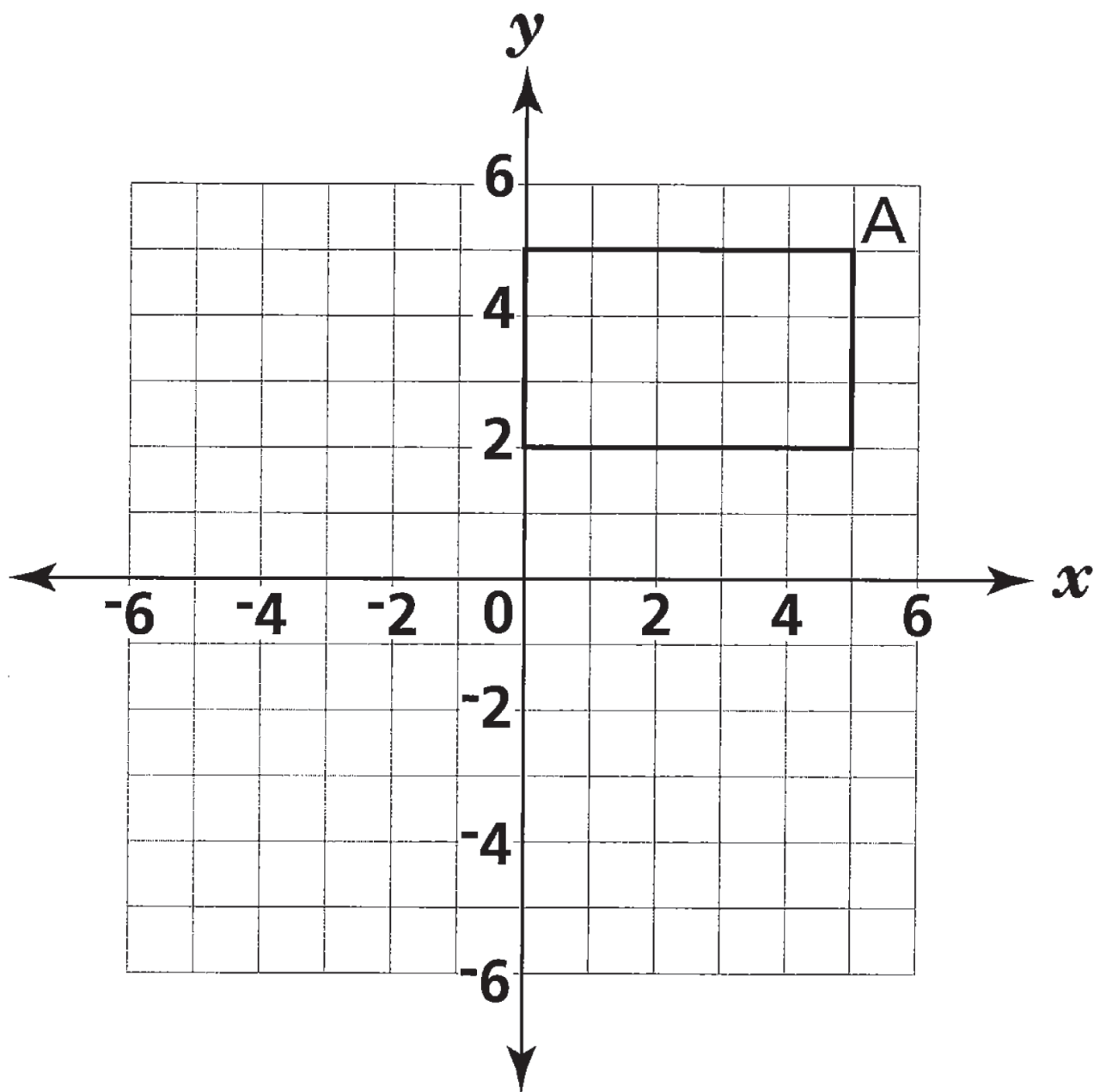
STRAND 3:   GEOMETRY
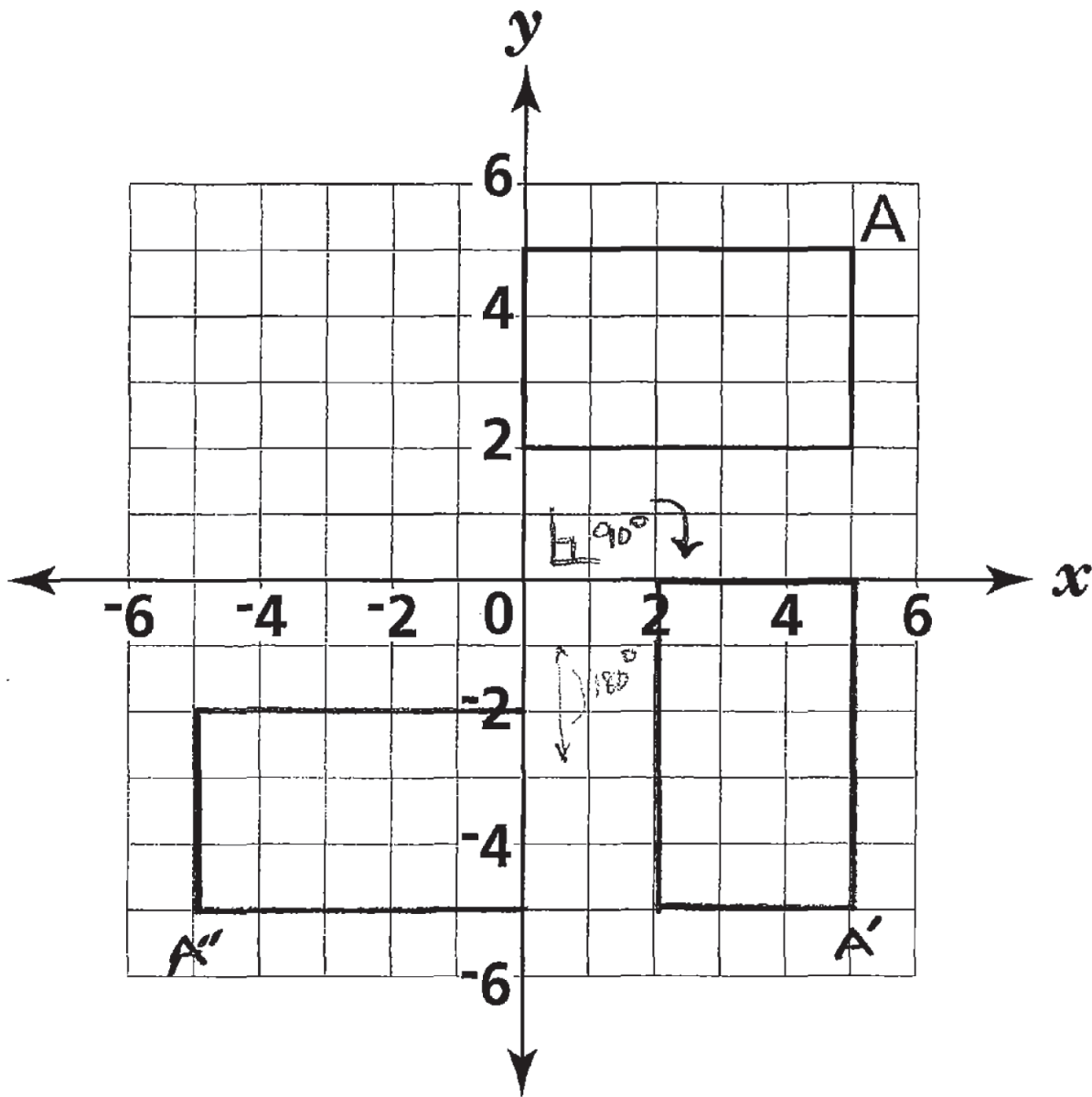
Complete and Correct Response:

Score Points:

Apply 3-point holistic rubric

32 Brian drew a rectangle on the grid below. On the same grid, rotate the rectangle both 90° and 180° clockwise about the origin. Label point A from the rectangle Brian drew as A' on your 90° rotated figure and as A" on your 180° rotated figure.

This response demonstrates a thorough understanding of the mathematical concepts embodied in the task.

Score Point - 3

32 Brian drew a rectangle on the grid below. On the same grid, rotate the rectangle **both** 90° and 180° clockwise about the origin. Label point A from the rectangle Brian drew as A' on your 90° rotated figure and as A" on your 180° rotated figure.
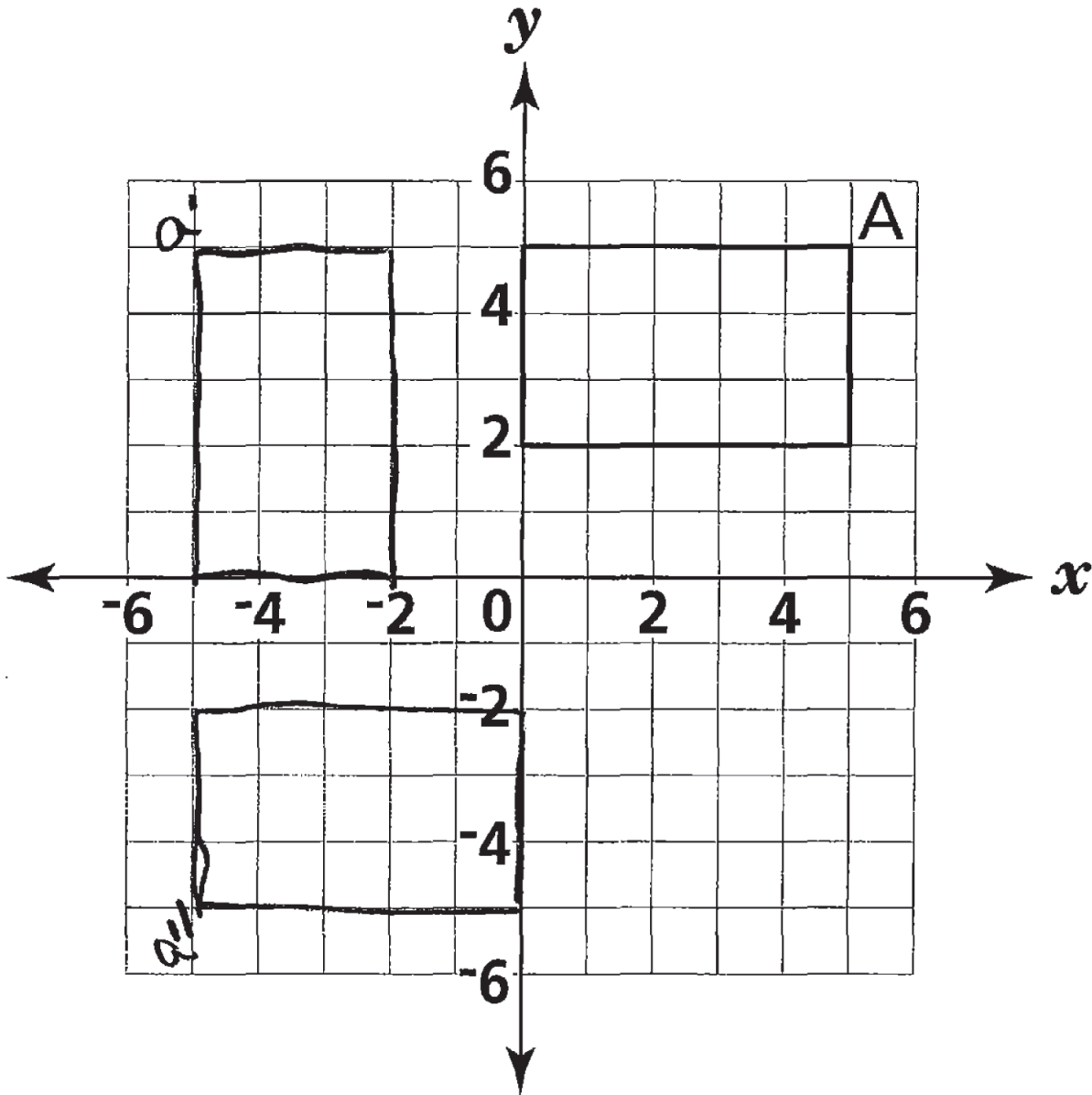

This response is partially correct and addresses most aspects of the task, using mathematically sound procedures; however, the 90˚ rotation is counter-clockwise instead of clockwise.

Score Point - 2

32 Brian drew a rectangle on the grid below. On the same grid, rotate the rectangle **both** 90° and 180° clockwise about the origin. Label point A from the rectangle Brian drew as A′ on your 90° rotated figure and as A″ on your 180° rotated figure.
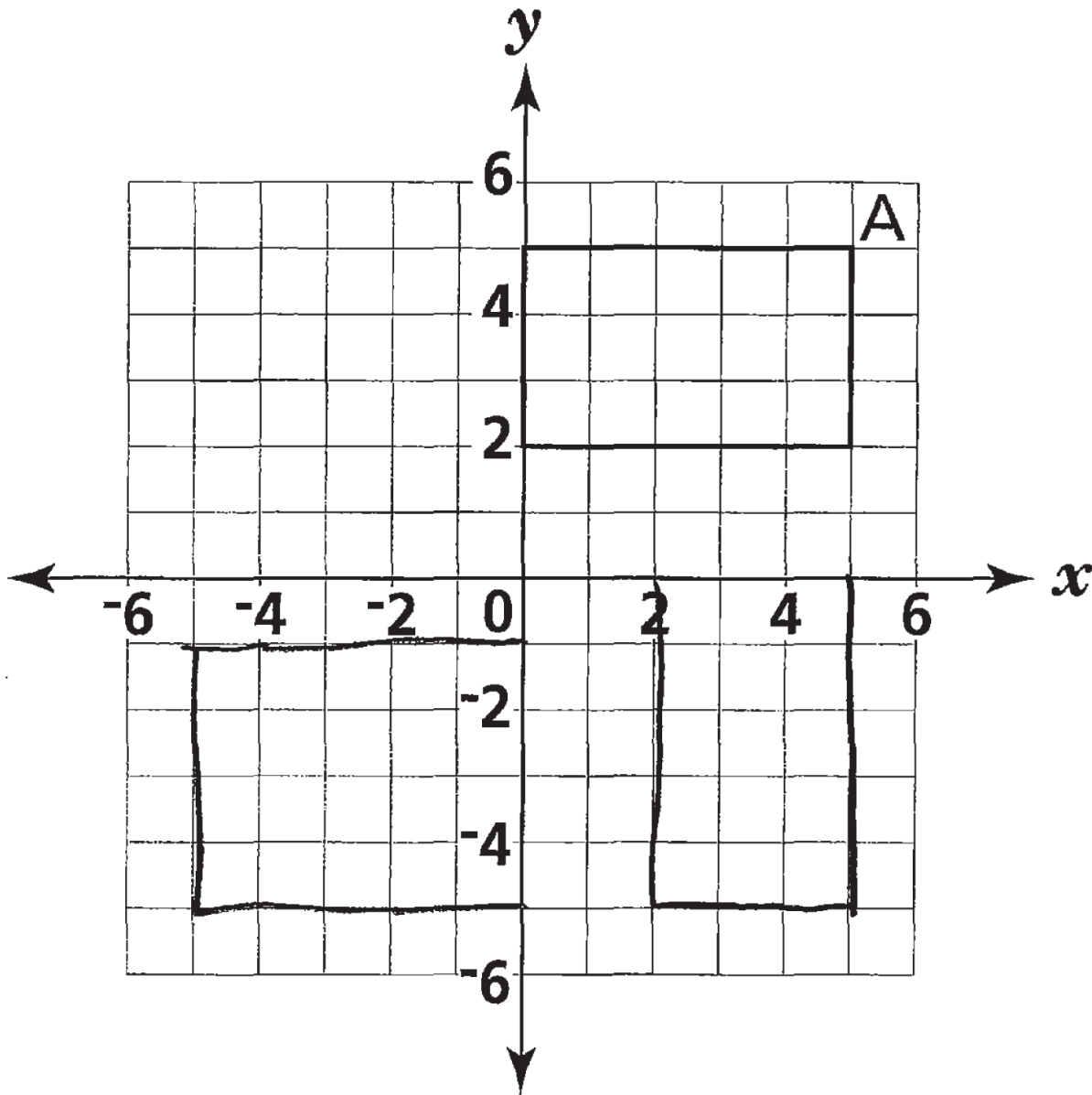

This response demonstrates a limited understanding of the mathematical concepts embodied in the task. Although the 90° rotation of the rectangle is correct, the 180° rotation contains a procedural flaw by not holding the size constant. No labels are provided.

Score Point - 1

32 Brian drew a rectangle on the grid below. On the same grid, rotate the rectangle **both** 90° and 180° clockwise about the origin. Label point A from the rectangle Brian drew as A' on your 90° rotated figure and as A" on your 180° rotated figure.
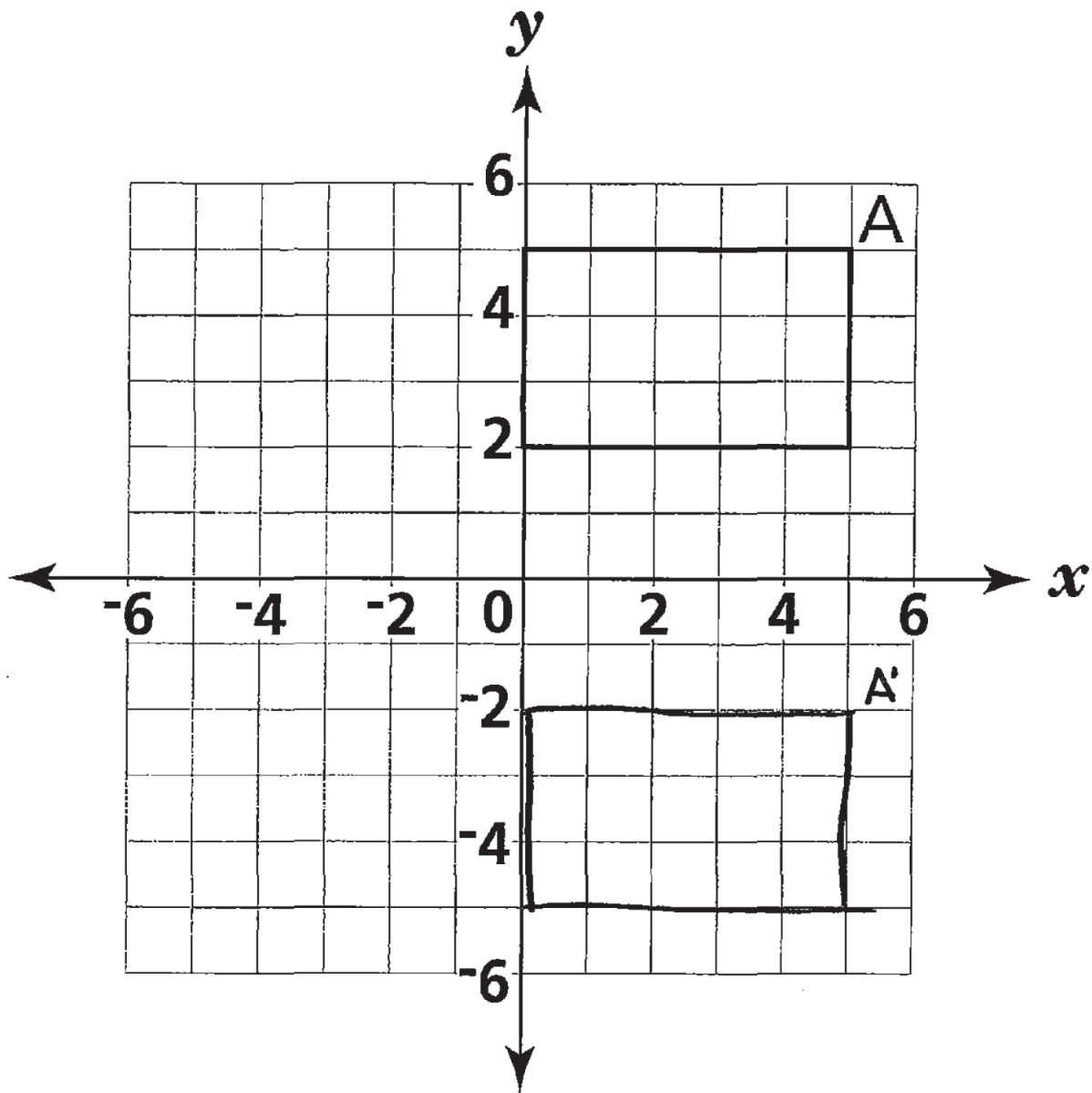
This response is completely incorrect. The rectangle was translated instead of rotated.

Score Point - 0

33 Noel and Renaldo want to rent bikes with two other friends. They have $150 to spend on bike rentals. The sign below shows the bike rental rates.

BIKE RENTALS

• Rent 1 bike for $9.75 per hour.

Special Group Rate

• For groups of 4 or more, save $3.00 per person.

All rates include tax.

Based on the information on the sign, the equation below can be used to determine the number of hours, *h*, the 4 friends can rent bikes with $150.

$$4(9.75h - 3) = 150$$

Part A

Noel says they have enough money to rent the bikes for a maximum of 3 hours. Solve the equation for the number of hours, *h,* in order to determine whether Noel is correct.

Show your work.

Answer _____ hours

Part B

On the lines below, explain whether Noel is correct.

_____

_____

_____

_____

_____

QUESTION 33

STRAND 2:   ALGEBRA

Complete and Correct Response:

Part A

- $39h - 12 = 150$
  $39h = 162$
  $h = 4.15$

OR other valid process

AND

- 4 hours or 4.15 hours or 4 hours and 9 minutes

Part B

- Explanation that states Noel is incorrect and that they can rent bikes for four hours.

OR other valid explanation

Score Points:

Apply 3-point holistic rubric

33 Noel and Renaldo want to rent bikes with two other friends. They have $150 to spend on bike rentals. The sign below shows the bike rental rates.

```
┌─────────────────────────────────────┐
│            BIKE RENTALS              │
│                                      │
│    • Rent 1 bike for $9.75 per hour. │
│                                      │
│          Special Group Rate          │
│                                      │
│    • For groups of 4 or more,        │
│      save $3.00 per person.          │
│                                      │
│          All rates include tax.      │
└─────────────────────────────────────┘
```

Based on the information on the sign, the equation below can be used to determine the number of hours, h, the 4 friends can rent bikes with $150.

$$4(9.75h - 3) = 150$$

Part A

Noel says they have enough money to rent the bikes for a maximum of 3 hours. Solve the equation for the number of hours, h, in order to determine whether Noel is correct.

Show your work.

$$4(9.75h - 3) = 150$$
$$(39h - 12) = 150$$
$$39h - 12 = 150$$
$$ +12 \quad +12$$
$$\overline{}$$
$$39h = 162$$
$$\frac{39h}{39} \quad \frac{162}{39}$$
$$h = 4.1538 => 4.15$$

Answer ___4.15___ hours

On the lines below, explain whether Noel is correct.

She is not correct. With the money she has, they can ride for 4.15 hours.

This response is complete and correct.

Score Point - 3

33 Noel and Renaldo want to rent bikes with two other friends. They have $150 to spend on bike rentals. The sign below shows the bike rental rates.

```
┌─────────────────────────────────┐
│         BIKE RENTALS            │
│                                 │
│  • Rent 1 bike for $9.75 per hour. │
│                                 │
│       Special Group Rate        │
│                                 │
│  • For groups of 4 or more,     │
│    save $3.00 per person.       │
│                                 │
│     All rates include tax.      │
└─────────────────────────────────┘
```

Based on the information on the sign, the equation below can be used to determine the number of hours, *h*, the 4 friends can rent bikes with $150.

$$4(9.75h - 3) = 150$$

Part A

Noel says they have enough money to rent the bikes for a maximum of 3 hours. Solve the equation for the number of hours, *h*, in order to determine whether Noel is correct.

Show your work.

$$4(9.75h - 3) = 150$$
$$39h - 12 = 150$$
$$+12 \quad +12$$
$$\overline{}$$
$$39h = 162$$
$$\overline{39 \quad\quad 39}$$
$$h = 4.15$$

Answer _____4.15_____ hours

Part B

On the lines below, explain whether Noel is correct.

He is correct because he could
go for about 4 hours, and 15
minutes,

This response is partially correct. The equation is solved for correctly, and the appropriate work is provided in Part A. However, in Part B, the explanation is incorrect and contains an incorrect conversion.

Score Point - 2

33 Noel and Renaldo want to rent bikes with two other friends. They have $150 to spend on bike rentals. The sign below shows the bike rental rates.

(handwritten above:) 2 ... $2 = 4$

> ## BIKE RENTALS
>
> • Rent 1 bike for $9.75 per hour.
>
> ## Special Group Rate
>
> • For groups of 4 or more,
>   save $3.00 per person.
>
> All rates include tax.

Based on the information on the sign, the equation below can be used to determine the number of hours, *h*, the 4 friends can rent bikes with $150.

$$4(9.75h - 3) = 150$$

Part A

Noel says they have enough money to rent the bikes for a maximum of 3 hours. Solve the equation for the number of hours, *h,* in order to determine whether Noel is correct.

Show your work.

$$4(9.75h - 3) = 150$$
$$-4 -4$$
$$9.75h - 3 = 146$$
$$+3 +3$$
$$\frac{9.75h}{9.75} \frac{149}{9.75}$$
$$h = 15.2$$

(handwritten side work:)

$$9.75$$
$$-3.00$$
$$\overline{6.75 \text{ each}}$$

$$6.75 \times 4 = \$27$$

$$\frac{150}{27} = 5.5 \text{ hrs}$$

Answer ____5 ½____ hours

Part B

On the lines below, explain whether Noel is correct.

no Noel is not correct. You can rent 4 bikes for 5 hours for $150. Its $6.75 each taking the $3 discount, Then $6.75 times 4 = $27 for all 4 to go for an hour. Then $150 divided by 27 each is 5.5 = 5 and 1/2 hours

---

This response addresses some elements of the task correctly. The process for solving the equation is flawed and yields an incorrect answer. However, the explanation supports the results in Part A.

Score Point - 1

33 Noel and Renaldo want to rent bikes with two other friends. They have $150 to spend on bike rentals. The sign below shows the bike rental rates.

```
┌─────────────────────────────────────┐
│            BIKE RENTALS             │
│                                     │
│  • Rent 1 bike for $9.75 per hour.  │
│                                     │
│        Special Group Rate           │
│                                     │
│  • For groups of 4 or more,         │
│    save $3.00 per person.           │
│                                     │
│      All rates include tax.         │
└─────────────────────────────────────┘
```

Based on the information on the sign, the equation below can be used to determine the number of hours, *h*, the 4 friends can rent bikes with $150.

$$4(9.75h - 3) = 150$$

Part A

Noel says they have enough money to rent the bikes for a maximum of 3 hours. Solve the equation for the number of hours, *h,* in order to determine whether Noel is correct.

Show your work.

$$\underline{1/person}$$
$$4(9.75h - 3) = 150$$
$$4(9.75 \cdot 3 - 3) = 150$$
$$105 \neq 150$$
$$4.125 \text{ hrs.}$$

Answer _____ hours

Part B

On the lines below, explain whether Noel is correct.

_____

_____

_____

_____

_____

This response is incorrect. Although 3 is substituted for *h* and solved correctly, holistically this is not sufficient to demonstrate even a limited understanding of the task.

Score Point - 0

34 Luisa works in her grandfather's jewelry shop. She deposits her earnings in a savings account. Her savings account balances for five of the last six weeks are shown in the function table below.

LUISA'S SAVINGS ACCOUNT

Week (w)	Savings Balance (b)
1	$510
2	$620
3	$730
4	$840
5	?
6	$1,060

Part A

According to the data in the function table, write a function rule that shows how much money Luisa saves each week.

Rule _____

Part B

Based on the table, how much money is in Luisa's savings account in week 5?

Answer $_____

QUESTION 34

STRAND 2: ALGEBRA

Complete and Correct Response:

Part A

- $b = 110w + 400$

OR other valid rule including a verbal description which can be written as an equation

Part B

- $950.00

Score Points:

Apply 2-point holistic rubric

34 Luisa works in her grandfather's jewelry shop. She deposits her earnings in a savings account. Her savings account balances for five of the last six weeks are shown in the function table below.

LUISA'S SAVINGS ACCOUNT

Week (w)	Savings Balance (b)
1	$510
2	$620
3	$730
4	$840
5	?
6	$1,060

Part A

According to the data in the function table, write a function rule that shows how much money Luisa saves each week.

Rule $b = 400 + 110w$

Part B

Based on the table, how much money is in Luisa's savings account in week 5?

Answer $ 950

This response is complete and correct.

Score Point - 2

34 Luisa works in her grandfather's jewelry shop. She deposits her earnings in a savings account. Her savings account balances for five of the last six weeks are shown in the function table below.

LUISA'S SAVINGS ACCOUNT

Week (w)	Savings Balance (b)
1	$510
2	$620
3	$730
4	$840
5	?
6	$1,060

Part A

According to the data in the function table, write a function rule that shows how much money Luisa saves each week.

Rule _She adds $110 each ween_

Part B

Based on the table, how much money is in Luisa's savings account in week 5?

Answer $ _950_

This response is only partially correct. Although the answer in Part B is correct, an appropriate function rule is not provided in Part A.

Score Point - 1

34 Luisa works in her grandfather's jewelry shop. She deposits her earnings in a savings account. Her savings account balances for five of the last six weeks are shown in the function table below.

LUISA'S SAVINGS ACCOUNT

Week (w)	Savings Balance (b)
1	$510
2	$620
3	$730
4	$840
5	?
6	$1,060

Part A

According to the data in the function table, write a function rule that shows how much money Luisa saves each week.

Rule _It goes by 10_____

Part B

Based on the table, how much money is in Luisa's savings account in week 5?

Answer $___940_____

This response is completely incorrect.

Score Point - 0

35 On the grid below, draw the image of pentagon ABCDE with center at the origin after a dilation of 3. Label the image A'B'C'D'E'.
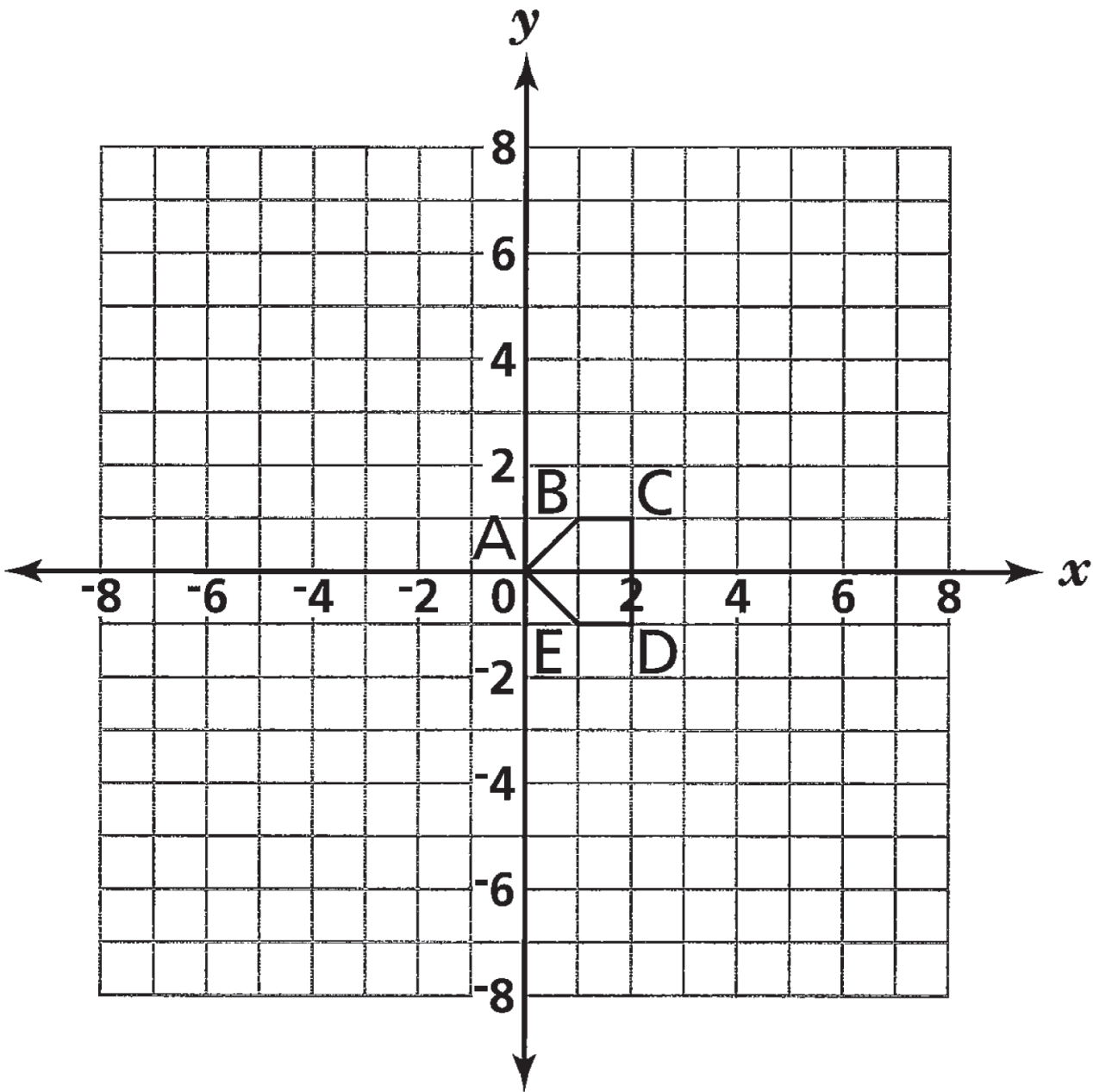
STRAND 3: GEOMETRY

Complete and Correct Response:
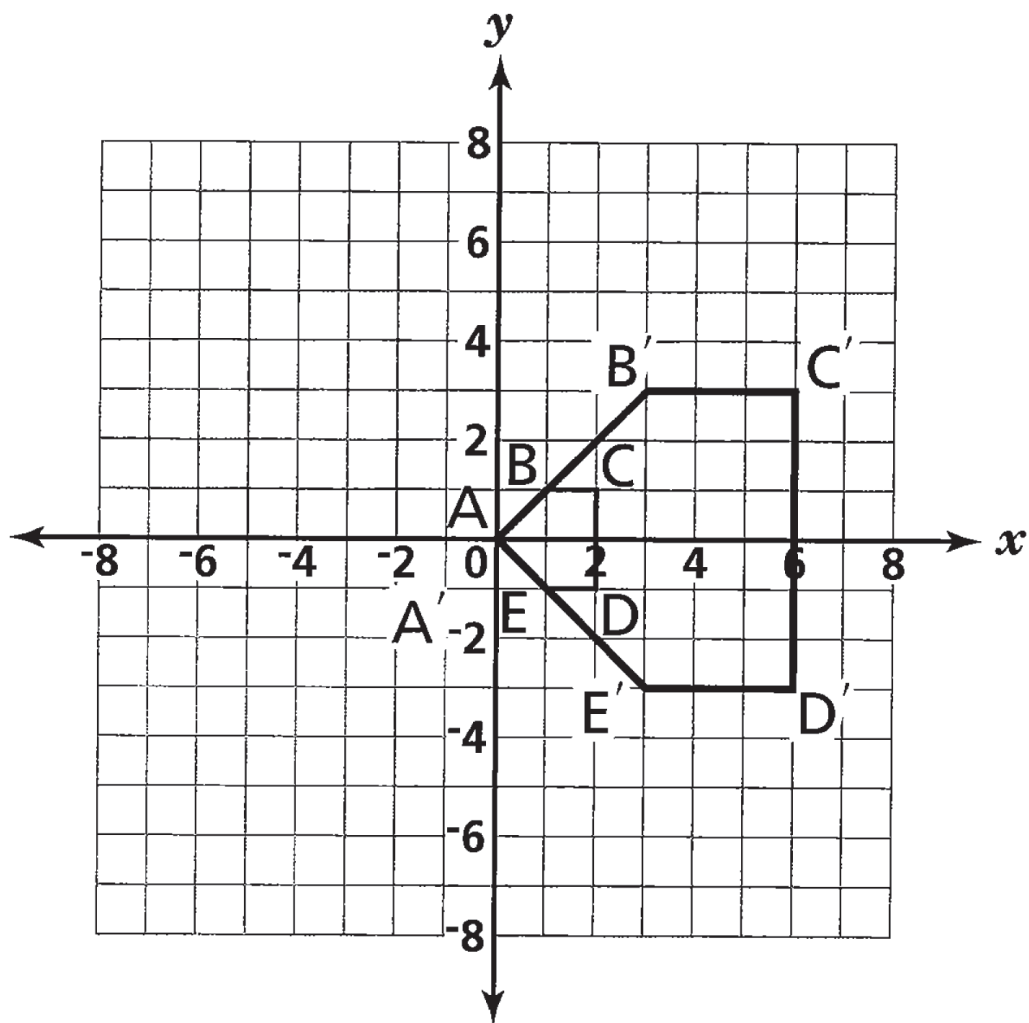
Score Points:

Apply 2-point holistic rubric

35 On the grid below, draw the image of pentagon ABCDE with center at the origin after a dilation of 3. Label the image A'B'C'D'E'.
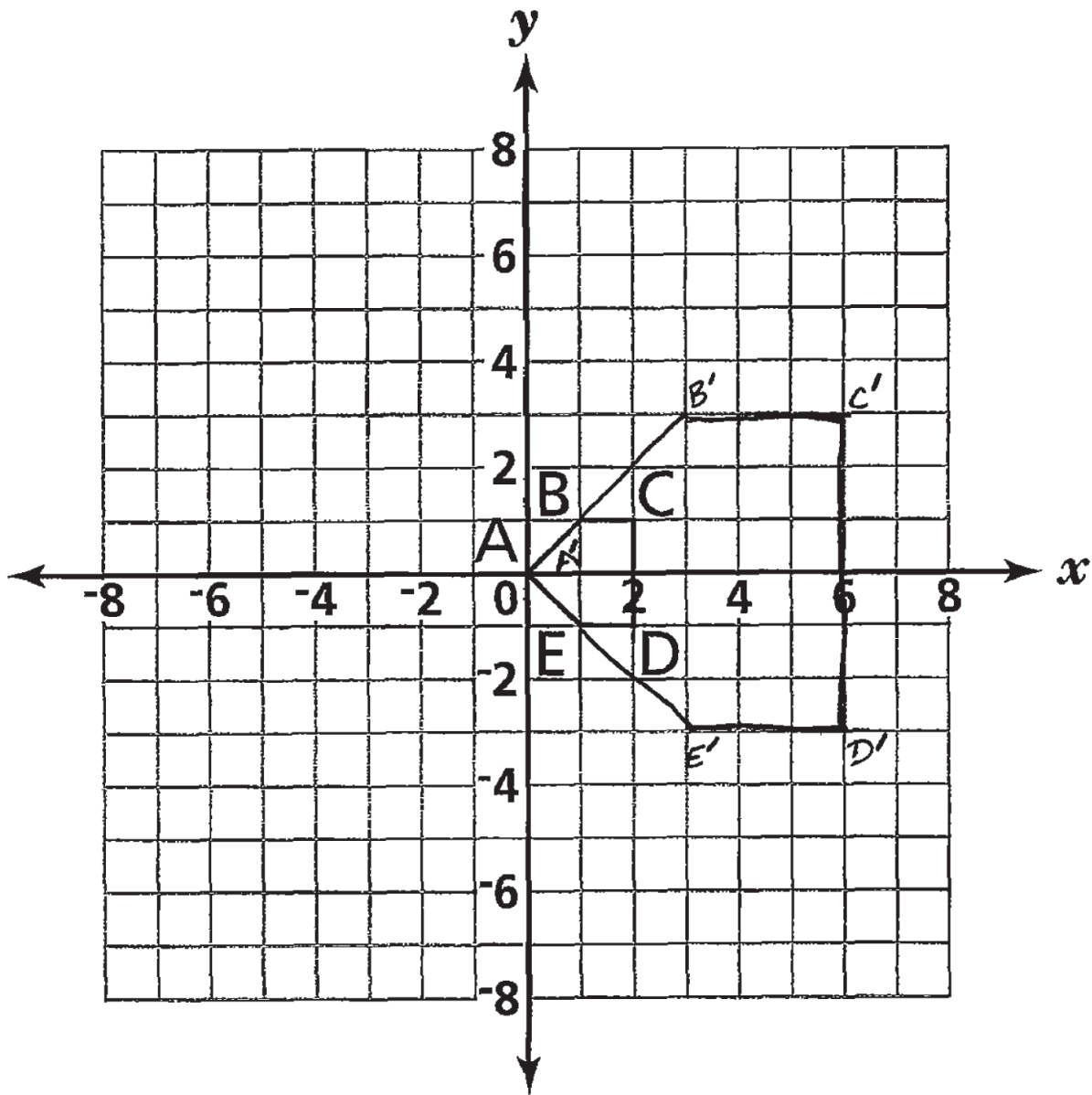
This response demonstrates a thorough understanding of the mathematical concepts embodied in the task.

Score Point - 2

35 On the grid below, draw the image of pentagon ABCDE with center at the origin after a dilation of 3. Label the image A'B'C'D'E'.
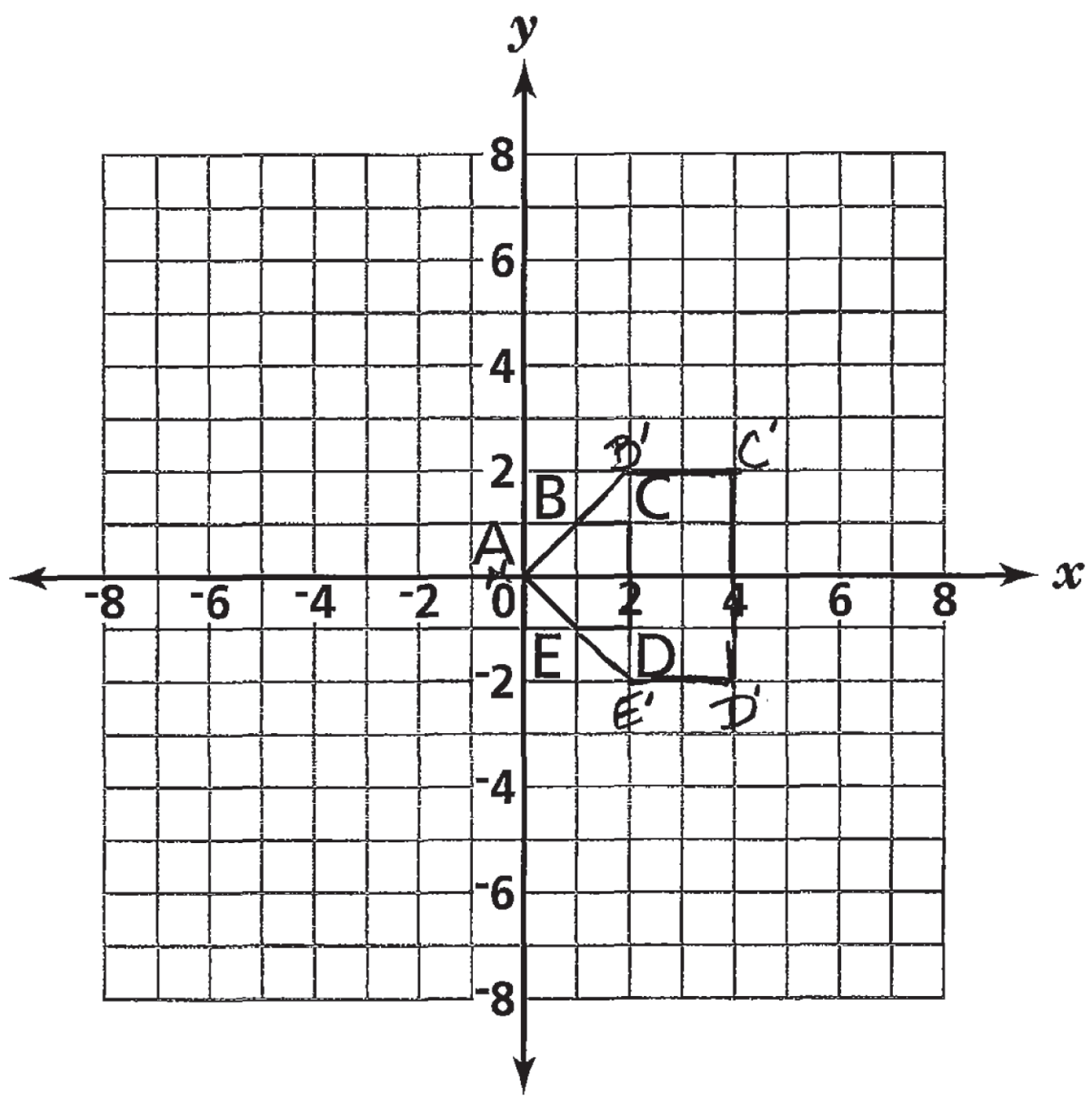
This response contains an incorrect solution but applies a mathematically appropriate process. An incorrect scale factor is applied. However, the image is labeled and drawn correctly.

Score Point - 1

35 On the grid below, draw the image of pentagon ABCDE with center at the origin after a dilation of 3. Label the image A′B′C′D′E′.
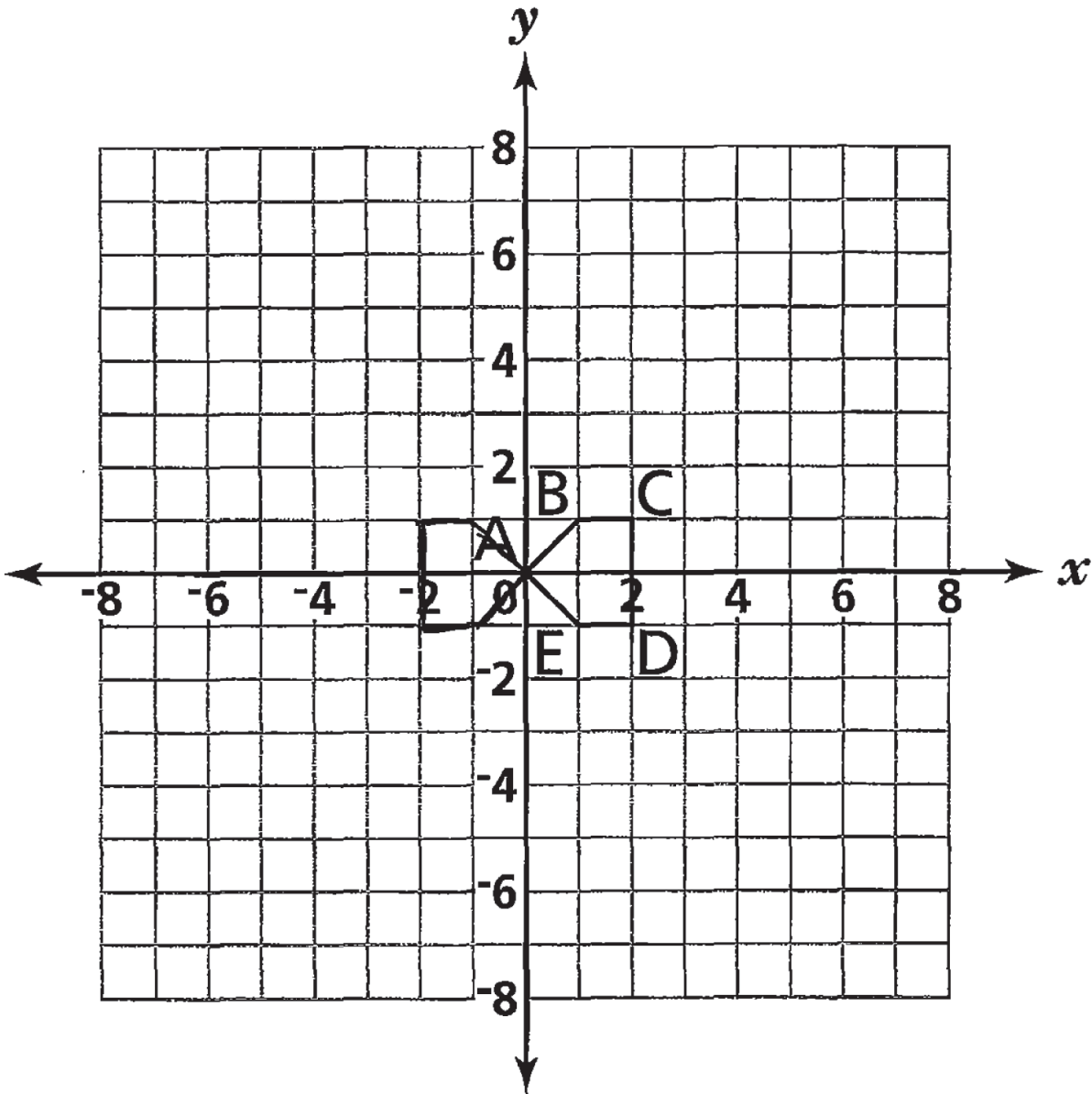
This response is completely incorrect.

Score Point - 0

36 Tracy's dog eats 8 ounces of dog food every day. How many pounds of dog food will her dog eat in 40 days?
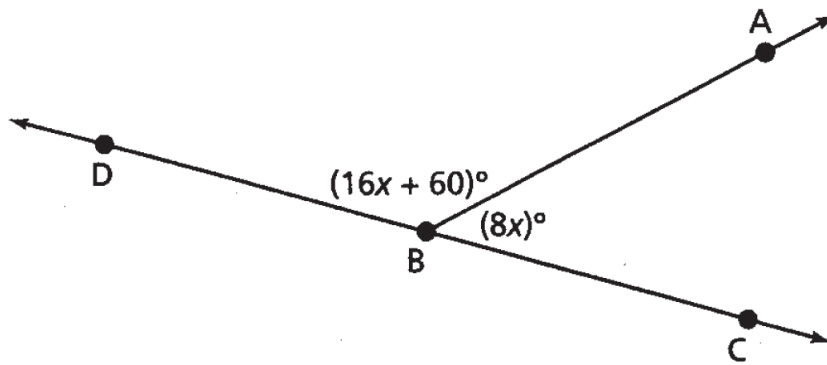
Show your work.

Answer _____ pounds

QUESTION 36

Complete and Correct Response:

- $8 \times 40 = 320$
  $320 \div 16 = 20$ pounds

OR other valid process

AND

- 20 pounds

Score Points:

Apply 2-point holistic rubric

36 Tracy's dog eats 8 ounces of dog food every day. How many pounds of dog food will her dog eat in 40 days?

Show your work.

$$40$$
$$\times\ 8$$
$$\overline{320}$$

$$16\overline{)320}$$ with 20 above

Answer _____ 20 _____ pounds

This response is complete and correct.

Score Point - 2

36 Tracy's dog eats 8 ounces of dog food every day. How many pounds of dog food will her dog eat in 40 days?

Show your work.

$$\begin{array}{r} 40 \\ \times\ 8 \\ \hline 320 \\ \div\ 12 \\ \hline \end{array}$$

Answer ___26.6___ pounds

This response demonstrates only a partial understanding of the mathematical concepts embodied in the task. The work shown is flawed in that the total number of ounces is divided by 12 and not 16.

Score Point - 1

36 Tracy's dog eats 8 ounces of dog food every day. How many pounds of dog food will her dog eat in 40 days?

Show your work.

8 ounces
X 7 days
─────────
56 ounces a week
X 40
─────────
2240 lbs

Answer ___2240___ pounds

This response is completely incorrect.

Score Point - 0

37 In the figure below, $\overline{DC}$ intersects $\overrightarrow{BA}$ at point B.

[not drawn to scale]

What is the measure, in degrees, of ∠ABC?

Show your work.

Answer _____ degrees

QUESTION 37

STRAND 2: ALGEBRA

Complete and Correct Response:

- $16x + 60 + 8x = 180$
  $24x + 60 = 180$
  $24x = 120$
  $x = 5$

  Substitute: $\angle ABC = 8x = 8 \times 5 = 40$.

OR other valid process

AND

- 40 degrees

Score Points:

Apply 3-point holistic rubric

37 In the figure below, $\overline{DC}$ intersects $\overrightarrow{BA}$ at point B.
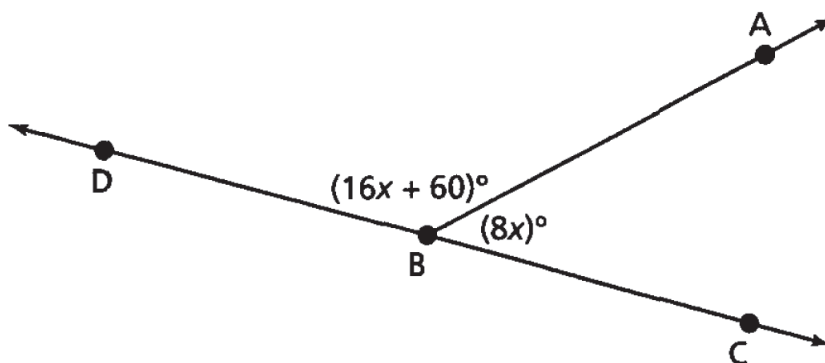
[not drawn to scale]

What is the measure, in degrees, of $\angle ABC$?

Show your work.

$(16x+60)+(8x)=180°$

$24x+60 = 180$

$-60 -60$

$\dfrac{24}{24}x = \dfrac{120}{24}$

$x = 5$

Answer ___**40**___ degrees

$8 \cdot 5 = 40$

This response demonstrates a thorough understanding of the task.

Score Point - 3

37 In the figure below, $\overline{DC}$ intersects $\overrightarrow{BA}$ at point B.

A

D

$(16x + 60)°$

$(8x)°$

B

C
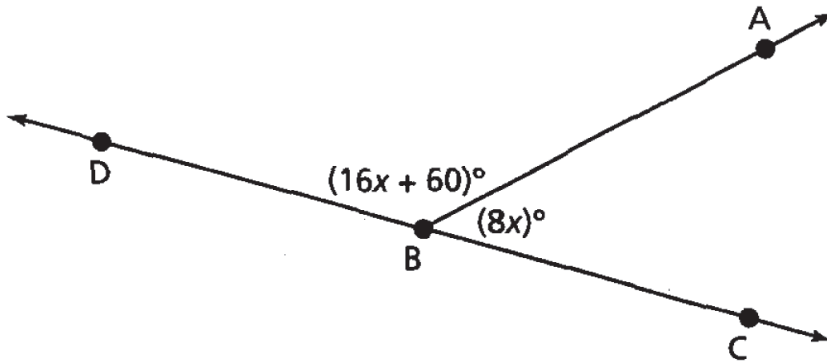
[not drawn to scale]

What is the measure, in degrees, of $\angle ABC$?

Show your work.

← (work)

$16x + 60 + 8x = 180°$

$24x + 60 = 180°$

$-60° \quad -60°$

$\dfrac{24x}{24} = \dfrac{120°}{24}$

$x = 5°$

Answer _____5°_____ degrees

This response addresses most aspects of the task correctly. The angles are set up as supplementary and the equation is solved correctly. However, the final step of solving for 8x is missing.

Score Point - 2

37 In the figure below, $\overline{DC}$ intersects $\overrightarrow{BA}$ at point B.
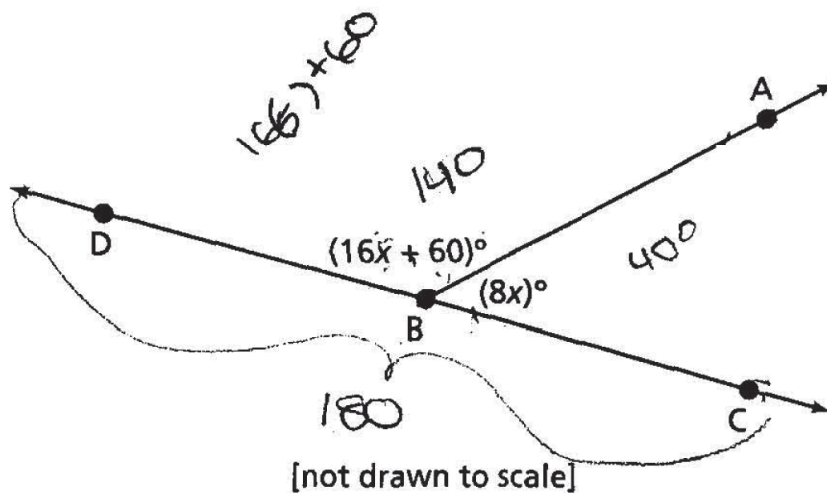
[not drawn to scale]

What is the measure, in degrees, of $\angle ABC$?

Show your work.

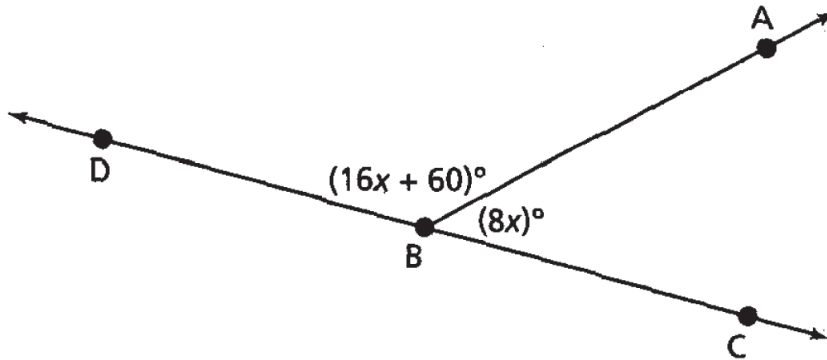$16(5)+60° = 140°$
$180° - 140° = 40°$
$8(5) = 40°$

Answer _____ $40°$ _____ degrees

This response is incomplete. The answer is arrived at using only one trial.

Score Point - 1

37 In the figure below, $\overleftrightarrow{DC}$ intersects $\overrightarrow{BA}$ at point B.

[not drawn to scale]

What is the measure, in degrees, of ∠ABC?

Show your work.

Answer ___42°___ degrees

This response is completely incorrect.
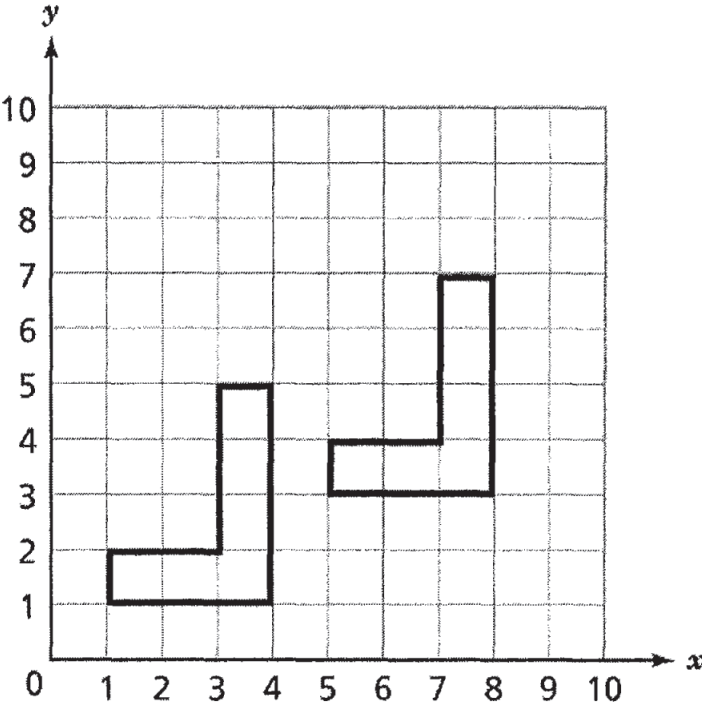
Score Point - 0

38 Shane uses a grid to decide how to arrange his living room furniture. The shape and position of Shane's sofa are shown on the grid below. He moves the sofa 4 units to the right and 2 units up. On the grid below, draw the new location of Shane's sofa.
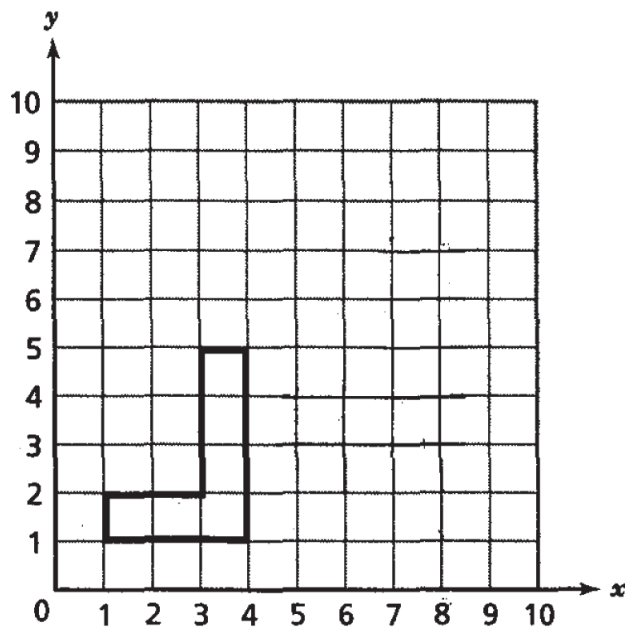
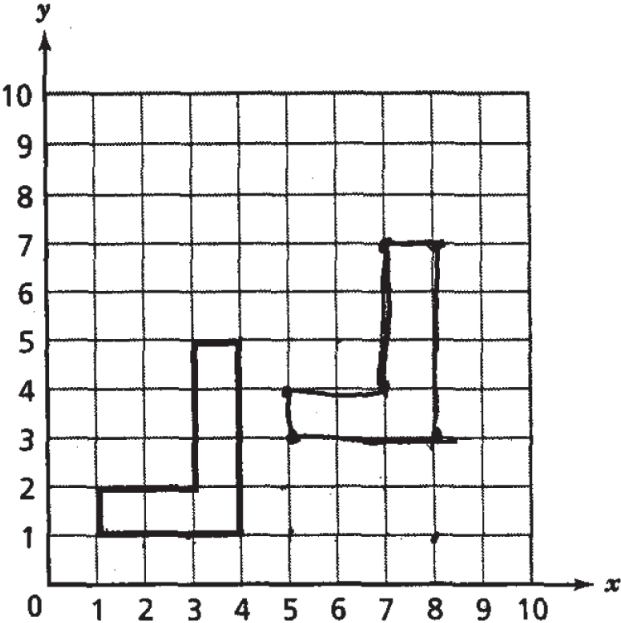STRAND 3: GEOMETRY

Complete and Correct Response:

Score Points:

Apply 2-point holistic rubric

38

Shane uses a grid to decide how to arrange his living room furniture. The shape and position of Shane's sofa are shown on the grid below. He moves the sofa 4 units to the right and 2 units up. On the grid below, draw the new location of Shane's sofa.
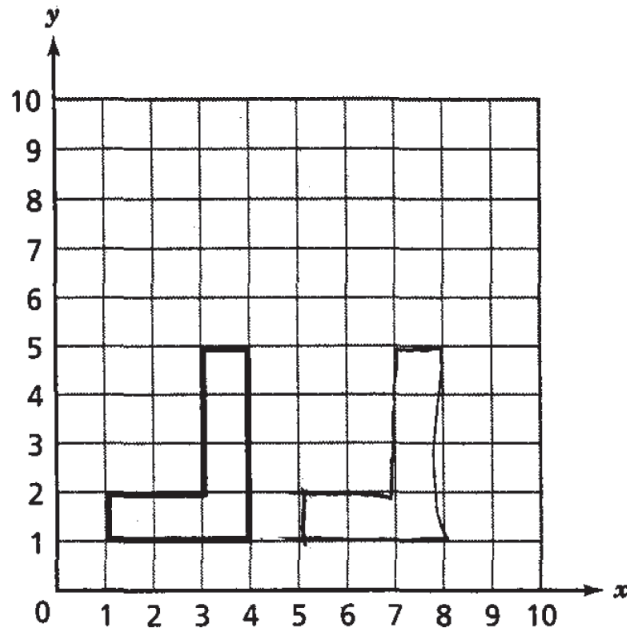

This response is complete and correct.

Score Point - 2

38

Shane uses a grid to decide how to arrange his living room furniture. The shape and position of Shane's sofa are shown on the grid below. He moves the sofa 4 units to the right and 2 units up. On the grid below, draw the new location of Shane's sofa.

This response addresses some elements of the task correctly. However, the final location of the shape is incorrect.

Score Point - 1

38 Shane uses a grid to decide how to arrange his living room furniture. The shape and position of Shane's sofa are shown on the grid below. He moves the sofa 4 units to the right and 2 units up. On the grid below, draw the new location of Shane's sofa.
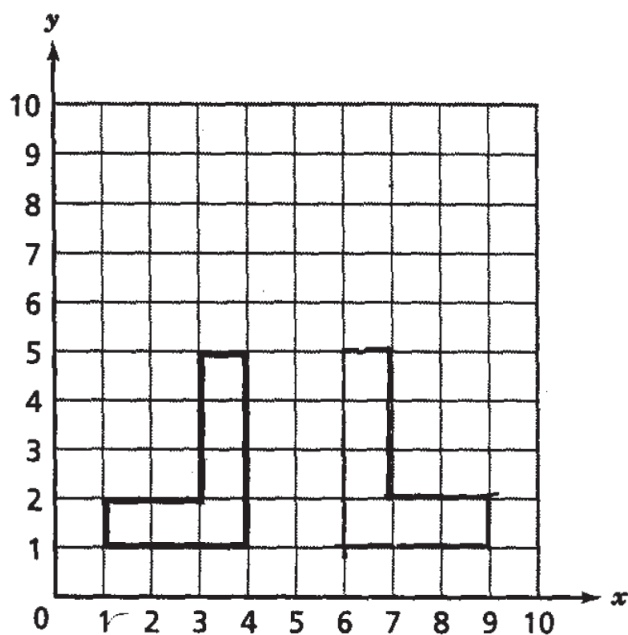

This response is completely incorrect. The figure is reflected instead of translated.

Score Point - 0

39 Juanita solved an equation incorrectly, as shown below.

$3x + 6 = 24$

$\frac{3x}{3} + 6 = \frac{24}{3}$

$x + 6 = 8$

$x = 2$

Part A

On the lines below, explain in words the mistake Juanita made.

_____

_____

_____

_____

Part B

Solve the equation $3x + 6 = 24$ correctly.

Show your work.

Answer _____

QUESTION 39

Complete and Correct Response:

Part A

- Explanation equivalent to the following:

  Juanita should have divided the 6 by 3 also.

  OR

  Juanita should have subtracted 6 from both sides of the equation before dividing by 3.

  OR other valid response

AND

Part B

- Work equivalent to the following:

  $3x + 6 = 24$
  $x + 2 = 8$
  $x = 6$

  OR

  $3x + 6 = 24$
  $3x = 18$
  $x = 6$

  OR other valid process

AND

- $(x =) 6$

Score points:

Apply 3-point holistic rubric

39 Juanita solved an equation incorrectly, as shown below.

$3x + 6 = 24$

$\frac{3x}{3} + 6 = \frac{24}{3}$

$x + 6 = 8$

$x = 2$

Part A

On the lines below, explain in words the mistake Juanita made.

did not divide 6 by 3

Part B

Solve the equation $3x + 6 = 24$ correctly.

Show your work.

$$\frac{3x}{3} + \frac{6}{3} = \frac{24}{3}$$

$$x + 2 = 8$$
$$-2 \quad -2$$

$$x \quad = 6$$

Answer ___6___

This response is complete and correct.

Score Point - 3

39 Juanita solved an equation incorrectly, as shown below.

$3x + 6 = 24$

$\frac{3x}{3} + 6 = \frac{24}{3}$

$x + 6 = 8$

$x = 2$

Part A

On the lines below, explain in words the mistake Juanita made.

She didn't subtract 6 from
both sides. Then divide by 3

Part B

Solve the equation $3x + 6 = 24$ correctly.

Show your work.

$$3x + 6 = 24$$
$$-6 = -16$$
$$3x = 8$$
$$x = 8/3$$

Answer ___8/3___

This response addresses most aspects of the task using mathematically sound procedures.
Part A is correct. However, a transcription error is made in Part B when subtracting 6 from
both sides of the equation, resulting in an incorrect answer.

Score Point - 2

39 Juanita solved an equation incorrectly, as shown below.

$3x + 6 = 24$

$\frac{3x}{3} + 6 = \frac{24}{3}$

$x + 6 = 8$

$x = 2$

Part A

On the lines below, explain in words the mistake Juanita made.

She did it wrong

Part B

Solve the equation $3x + 6 = 24$ correctly.

Show your work.

$$\frac{3x}{3} + \frac{6}{3} = \frac{24}{3}$$

$$X + 2 = 8$$
$$X = 10$$

Answer ___10___

This response demonstrates only a limited understanding of the mathematical concepts and procedures embodied in the task. Part A is incorrect. In Part B an error is made when 2 is added to 8 instead of subtracted from 8.

Score Point - 1

39 Juanita solved an equation incorrectly, as shown below.

$3x + 6 = 24$

$\frac{3x}{3} + 6 = \frac{24}{3}$

$x + 6 = 8$

$x = 2$

Part A

On the lines below, explain in words the mistake Juanita made.

She didn't add 6 to 8.

Part B

Solve the equation $3x + 6 = 24$ correctly.

Show your work.

$x = 8 + 6$

Answer _14_

This response is completely incorrect.

Score Point - 0

40 Xavier bought a shirt that was on sale for 20% off the original price. He also used a coupon that gave him an additional 15% off the sale price of the shirt. The original price of the shirt was $37. What is the new price of the shirt before tax?

Show your work.

Answer $ _____

QUESTION 40

STRAND 1: NUMBER SENSE AND OPERATIONS

Complete and Correct Response:

- $37.00 x .20 = $7.40
  $37.00 - $7.40 = $29.60

  $29.60 x .15 = $4.44
  $29.60 - $4.44 = $25.16

OR other valid process

AND

- $25.16

Score Points:

Apply 2-point holistic rubric

40 Xavier bought a shirt that was on sale for 20% off the original price. He also used a coupon that gave him an additional 15% off the sale price of the shirt. The original price of the shirt was $37. What is the new price of the shirt before tax?

Show your work.

$37
X .20

$7.40

$37.00
- 7.40

$29.60

$29.60
x .15

$4.44

$29.60
- 4.44

$25.16

Answer $ 25.16

This response demonstrates a thorough understanding of the mathematical concepts embodied in the task.

Score Point - 2

40 Xavier bought a shirt that was on sale for 20% off the original price. He also used a coupon that gave him an additional 15% off the sale price of the shirt. The original price of the shirt was $37. What is the new price of the shirt before tax?

Show your work.

$$20$$
$$+15$$
$$\overline{35\%}$$

$$37$$
$$\times .35$$
$$\overline{1295}$$

$$37.00$$
$$-12.95$$
$$\overline{\$24.05}$$

Answer $ ___24.05___

This response demonstrates only a partial understanding of the mathematical procedures embodied in the task. The first step of the procedure is incorrect in that the 20% and 15% discounts are added to equal 35%. Although the student computes the total of the two discounts incorrectly, the final step of subtracting the total discount from the original price of the shirt is correct.

Score Point - 1

40 Xavier bought a shirt that was on sale for 20% off the original price. He also used a coupon that gave him an additional 15% off the sale price of the shirt. The original price of the shirt was $37. What is the new price of the shirt before tax?

Show your work.

$$
\begin{array}{r}
37 \\
\times\ .20 \\
\hline
7.40 \\
\times\ .15 \\
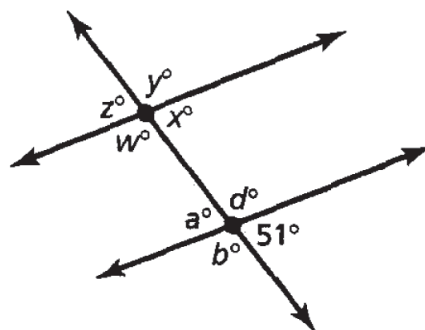\hline
1.11
\end{array}
$$

Answer $ \underline{\ \ 1.11\ \ }$

This response is incorrect. Although the first step is the beginning of a correct mathematical procedure, holistically it is not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

Score Point - 0

41 The figure below shows parallel lines cut by a transversal.

[not drawn to scale]

Part A

Based on the information in the figure, complete the table below with the measures for each angle.

Angle	$a°$	$b°$	$d°$	$w°$	$x°$	$y°$	$z°$
Degree Measure							

Part B

Name one pair of supplementary angles in the figure.

Answer _____

QUESTION 41

STRAND 3: GEOMETRY

Complete and Correct Response:

Part A

Angle	$a°$	$b°$	$d°$	$w°$	$x°$	$y°$	$z°$
Degree Measure	51°	129°	129°	129°	51°	129°	51°

Part B

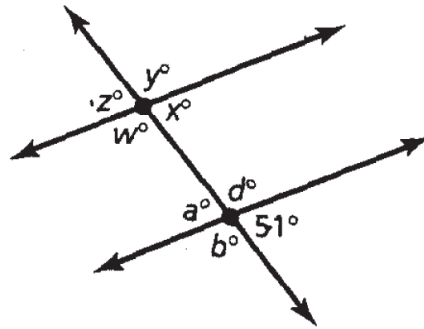- $\angle a$ and $\angle b$

OR other valid pair of supplementary angles

Score Points:

Apply 3-point holistic rubric

41 The figure below shows parallel lines cut by a transversal.

[not drawn to scale]

Part A

Based on the information in the figure, complete the table below with the measures for each angle.

Angle	a°	b°	d°	w°	x°	y°	z°
Degree Measure	51°	129°	129°	129°	51°	129°	51°

$$\begin{array}{r} 180 \\ -\ 51 \\ \hline 129° \end{array}$$

Part B

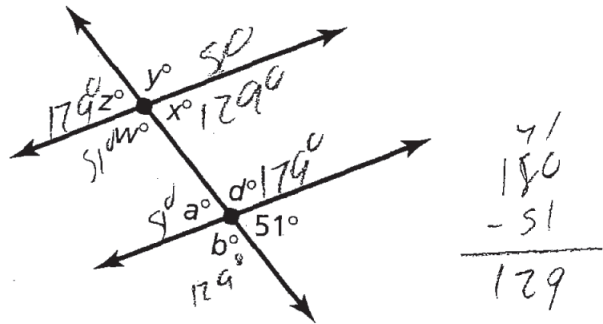Name one pair of supplementary angles in the figure.

$-180°$

Answer _angle a° + angle B°_____

This response is complete and correct.

Score Point - 3

41 The figure below shows parallel lines cut by a transversal.

[not drawn to scale]

Part A

Based on the information in the figure, complete the table below with the measures for each angle.

Angle	a°	b°	d°	w°	x°	y°	z°
Degree Measure	51°	129°	129°	51°	129°	51°	129°

Part B

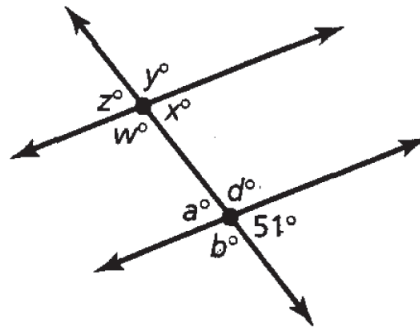Name one pair of supplementary angles in the figure.

Answer ___ X and y   (129 and 51°) ___

This response is partially correct. Although Part A has some errors, knowledge of supplementary angles is shown when angle measures of 129° and 51° are used in the table. The answer in Part B is correct.

Score Point - 2

41 The figure below shows parallel lines cut by a transversal.

[not drawn to scale]

Part A

Based on the information in the figure, complete the table below with the measures for each angle.

Angle	$a°$	$b°$	$d°$	$w°$	$x°$	$y°$	$z°$
Degree Measure	$51°$	$80°$	$180°$	$92°$	$51°$	$85°$	$51°$

Part B

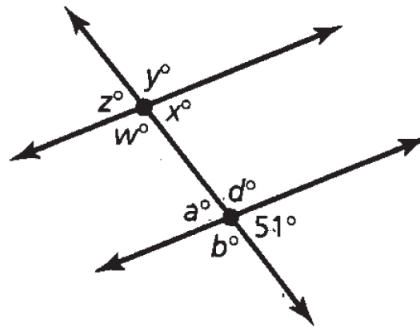Name one pair of supplementary angles in the figure.

Answer ___ X, Z _____

This response exhibits multiple flaws, but is not completely incorrect. The measures of angles *a*, *x*, and *z* are correct in the table showing an understanding of vertical and alternate interior angles. However, the student demonstrates no understanding of supplementary angles.

Score Point - 1

41 The figure below shows parallel lines cut by a transversal.

[not drawn to scale]

Part A

Based on the information in the figure, complete the table below with the measures for each angle.

Angle	a°	b°	d°	w°	x°	y°	z°
Degree Measure	51	110	HO	110	110	51	51

Part B

Name one pair of supplementary angles in the figure.

Answer ___b, d___

This response is incorrect. Although the measures of angles *a* and *z* are correct, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts embodied in the task.

Score Point - 0

42 Write an equation that represents "eight less than twice a number is forty-two."

Equation _____

Solve the equation.

Show your work.

Answer _____

QUESTION 42

Complete and Correct Response:

- $2n - 8 = 42$

AND

- $2n - 8 = 42$
    $2n = 50$
    $n = 25$

OR other valid process

AND

- 25

Score Points:

Apply 2-point holistic rubric

42 Write an equation that represents "eight less than twice a number is forty-two."

Equation $2x - 8 = 42$

Solve the equation.

Show your work.

$$2x - 8 = 42$$
$$+8 \quad +8$$
$$2x = 50$$
$$\frac{2x}{2} = \frac{50}{2}$$
$$x = 25$$

Answer $x = 25$

This response is complete and correct.

Score Point - 2

42 Write an equation that represents "eight less than twice a number is forty-two."

Equation $2n - 8 = 42$

Solve the equation.

Show your work.

$$2n - 8 = 42$$
$$-8 \quad -8$$
$$\frac{2n}{2} = \frac{34}{2}$$
$$N = 17$$

Answer $N = 17$

This response addresses some elements of the task correctly but contains some procedural flaws. The proper equation is given, but in solving the equation, 8 is subtracted from both sides of the equation rather than added, resulting in an incorrect answer.

Score Point - 1

42 Write an equation that represents "eight less than twice a number is forty-two."

Equation $8 < 2x = 42$

Solve the equation.

Show your work.

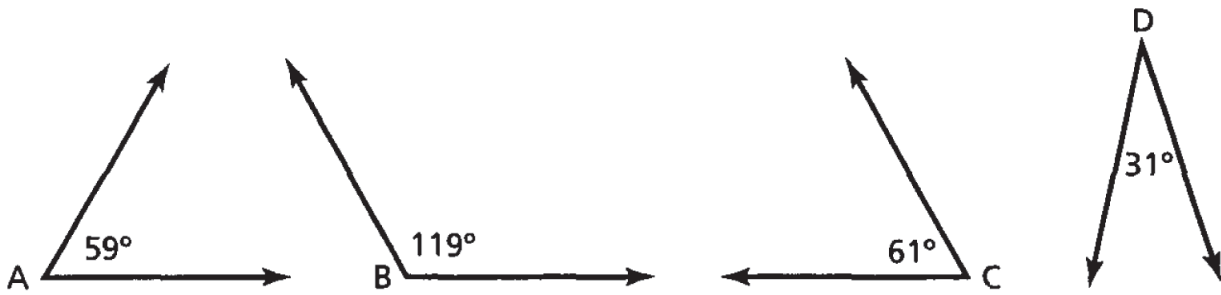$$\frac{8 < 2x = 42}{2x \quad 2}$$

$$8 < = 21$$

Answer 21

This response is completely incorrect.

Score Point - 0

43 Bryce drew the four angles shown below.

Part A

Which pair of angles are complementary? _____

Which pair of angles are supplementary? _____

Part B

On the lines below, explain how you determined your answers.

_____

_____

_____

_____

_____

QUESTION 43

Complete and Correct Response:

Part A

- Complementary Angles A & D
  Supplementary Angles B & C

Part B

- These angle pairs are correct because complementary angles add up to 90°
  and supplementary angles add up to 180°. Angle A (59°) + Angle D (31°) =
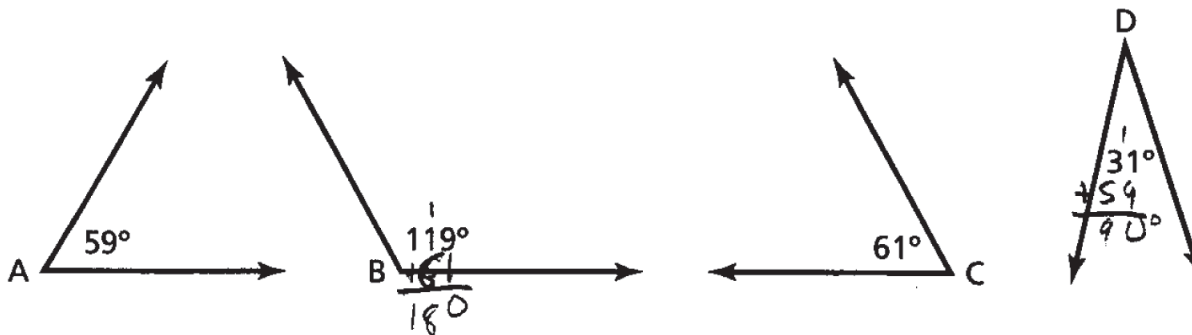 90°. Angle B (119°) + Angle C (61°) = 180°.

OR other valid explanation

Score Points:

Apply 2-point holistic rubric

43 Bryce drew the four angles shown below.

Part A

Which pair of angles are complementary? _____ A+D _____

Which pair of angles are supplementary? _____ B & C _____

Part B

On the lines below, explain how you determined your answers.
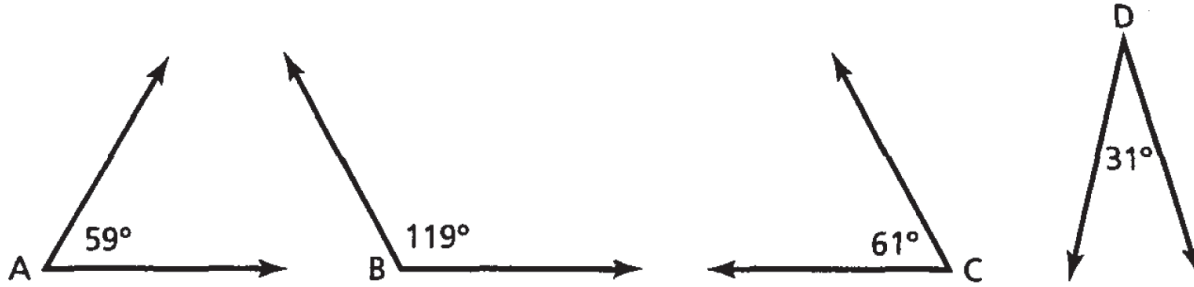
For complementary: (A) 59° + (D) 31° = 90°

For supplementary: (B) 119° + (C) 61° = 180°

_____

_____

_____

This response demonstrates a thorough understanding of the mathematical concepts embodied in the task.

Score Point - 2

43 Bryce drew the four angles shown below.

Part A

Which pair of angles are complementary? ⟨90°⟩ _A and D_

Which pair of angles are supplementary? ⟨186°⟩ _B and C_

Part B

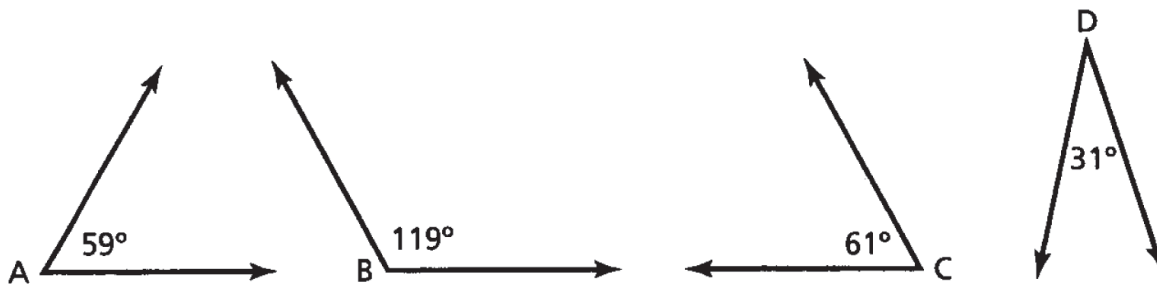On the lines below, explain how you determined your answers.

Well a complementary angle is 90°
and a suplementary angle is 180°
so A and D are closer to 180°
and B & C are closer to
_90°._

This response demonstrates only a partial understanding of the mathematical concepts embodied in the task. Part A is answered correctly. However, the explanation in Part B is flawed in that it refers to complementary and supplementary as single angles versus the addition of two angles.

Score Point - 1

43 Bryce drew the four angles shown below.

Part A

Which pair of angles are complementary? ___A, C, D___

Which pair of angles are supplementary? ___B___

Part B

On the lines below, explain how you determined your answers.

Because supplementary means
that each angle equals 180.
And complementary equals 90,
Supplementary angles are usually
obtuse angles + complementary
angles are usually acute.

This response is completely incorrect. In Part A, the angles are not properly paired. The explanation in Part B is flawed in identifying supplementary and complementary angles as single angles.

Score Point - 0

44 Brian and Steve want to compare the prices of their favorite cereals to determine which is less expensive. The table below shows the price of each box of cereal and the number of ounces in each box.

BOXES OF CEREAL

	Total Weight (in ounces)	Total Price (per box)	Price (per ounce)
Brian's Cereal	24 oz.	$3.84	
Steve's Cereal	32 oz.	$4.48	

Part A

Complete the table above by calculating the price per ounce of each kind of cereal.

Part B

Whose cereal is less expensive per ounce?

Show your work.

Answer _____

STRAND 4:   MEASUREMENT

Complete and Correct Response:

Part A

BOXES OF CEREAL

	Total Weight (in ounces)	Total Price (per box)	Price (per ounce)
Brian's Cereal	24 oz.	$3.84	$0.16
Steve's Cereal	32 oz.	$4.48	$0.14

Part B

- Brian's unit price:

$$\frac{24 \text{ oz.}}{\$3.84} = \frac{1 \text{ oz.}}{x}; 24 \text{ oz.} \cdot x = \$3.84; x = \$3.84 \div 24 \text{ oz.} = \$0.16 \text{ per oz.}$$

    Steve's unit price:

$$\frac{32 \text{ oz.}}{\$4.48} = \frac{1 \text{ oz.}}{x}; 32 \text{ oz.} \cdot x = \$4.48; x = \$4.48 \div 32 \text{ oz.} = \$0.14 \text{ per oz.}$$

OR

- Brian's cereal: $\frac{\$3.84}{24}$ oz. = $0.16 per oz.

    Steve's cereal: $\frac{\$4.48}{32}$ oz. = $0.14 per oz.

OR other valid process

AND

- Steve's cereal

Score Points:

Apply 2-point holistic rubric

44 Brian and Steve want to compare the prices of their favorite cereals to determine which is less expensive. The table below shows the price of each box of cereal and the number of ounces in each box.

BOXES OF CEREAL

	Total Weight (in ounces)	Total Price (per box)	Price (per ounce)
Brian's Cereal	24 oz.	$3.84	$ .16
Steve's Cereal	32 oz.	$4.48	$ .14

Part A

Complete the table above by calculating the price per ounce of each kind of cereal.

Part B

Whose cereal is less expensive per ounce?

Show your work.

$$24\overline{)\$3.84} = .16$$

$$32\overline{)\$4.48} = .14$$

Brian's   Steve's

Answer ___Steve's___

This response is complete and correct.

Score Point - 2

44 Brian and Steve want to compare the prices of their favorite cereals to determine which is less expensive. The table below shows the price of each box of cereal and the number of ounces in each box.

BOXES OF CEREAL

	Total Weight (in ounces)	Total Price (per box)	Price (per ounce)
Brian's Cereal	24 oz.	$3.84	.16 ¢
Steve's Cereal	32 oz.	$4.48	.14 ¢

Part A

Complete the table above by calculating the price per ounce of each kind of cereal.

Part B

Whose cereal is less expensive per ounce?

Show your work.

$24\overline{)3.84}$ $32\overline{)4.48}$

Answer ___Steve's___

This response is only partially correct. The correct mathematical process is shown for solving the problem and the correct response is written in the answer blank. However, an invalid representation of 14 and 16 cents is shown in the table.

Score Point - 1

44 Brian and Steve want to compare the prices of their favorite cereals to determine which is less expensive. The table below shows the price of each box of cereal and the number of ounces in each box.

BOXES OF CEREAL

	Total Weight (in ounces)	Total Price (per box)	Price (per ounce)
Brian's Cereal	24 oz.	$3.84	$0.92
Steve's Cereal	32 oz.	$4.48	$1.43

Part A

Complete the table above by calculating the price per ounce of each kind of cereal.

Part B

Whose cereal is less expensive per ounce?

Show your work.

$$\begin{array}{r} \text{Brian } 3.84 \\ \times\ .24 \\ \hline \$0.92 \end{array}$$

$$\begin{array}{r} \text{Steve } 4.48 \\ \times\ 32 \\ \hline \$1.43 \end{array}$$
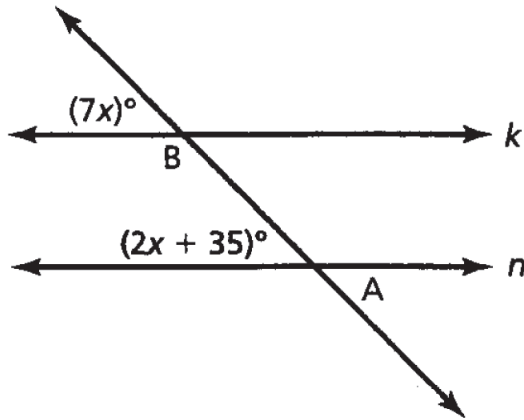
Answer _Brian's cereal_

This response is completely incorrect.

Score Point - 0

45 In the figure below, lines *k* and *n* are parallel. Line *l* is a transversal.

[not drawn to scale]

Part A

What is the value of *x*?

Show your work.

Answer _____

Part B

What is the measure, in degrees, of ∠A?

Show your work.

Answer _____ degrees

Part C

What is the measure, in degrees, of ∠B?

Show your work.

Answer _____ degrees

QUESTION 45

Complete and Correct Response:

Part A

- $7x = 2x + 35$
  $5x = 35$
  $x = 7$

OR other valid process

AND

Part B

- $\angle A = 7x$
  $\angle A = 7 \cdot 7$
  $\angle A = 49$
  49 degrees

OR other valid process

AND

Part C

- $\angle B = 180 - \angle A$
  $\angle B = 180 - 49$
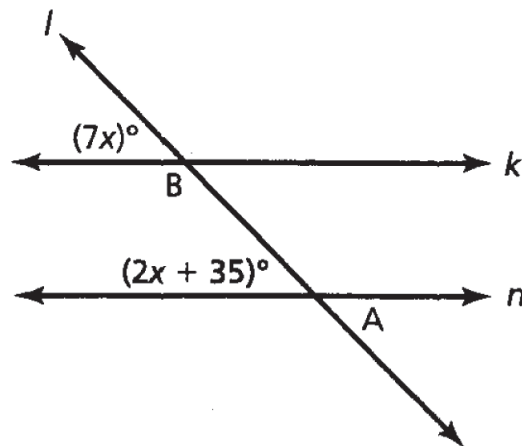 $\angle B = 131$
  131 degrees

OR other valid process

Score Points:

Apply 3-point holistic rubric

45 In the figure below, lines k and n are parallel. Line l is a transversal.

[not drawn to scale]

Part A

What is the value of x?

Show your work.

$$7x = 2x + 35$$
$$-2x \quad -2x$$
$$\frac{5x = 35^\circ}{5 \quad 5}$$
$$x = 7$$

Answer _____ $x = 7$ _____

Part B

What is the measure, in degrees, of ∠A?

Show your work.

$A = 2x + 35$
$A = 2(7) + 35$
$A = 14 + 35$
$A = 49°$

Answer ___A= 49___ degrees

Part C

What is the measure, in degrees, of ∠B?

Show your work.

$B = 180 - 7x$
$B = 180 - 7(7)$
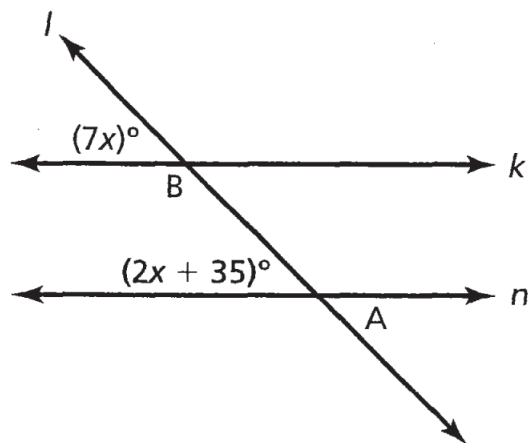$B = 180 - 49$
$B = 131$

Answer ___131___ degrees

This response is complete and correct.

Score Point - 3

45 In the figure below, lines k and n are parallel. Line l is a transversal.

[not drawn to scale]

Part A

What is the value of x?

Show your work.

$$7x = 2x + 35$$
$$-2x \qquad -2x$$
$$\overline{}$$
$$\frac{5x}{5} = \frac{35}{5}$$
$$7 = x$$

Answer _____ $7 = x$ _____

Part B

What is the measure, in degrees, of ∠A?

Show your work.

$$7x = 7 \times 7 = 49$$

$$\begin{array}{r} 180 \\ -\ \ 49 \\ \hline 131 \end{array}$$

$$7x = 2x + 35$$

Answer ____131°____ degrees

Part C

What is the measure, in degrees, of ∠B?

Show your work.

$$7x = 7 \times 7 = 49$$

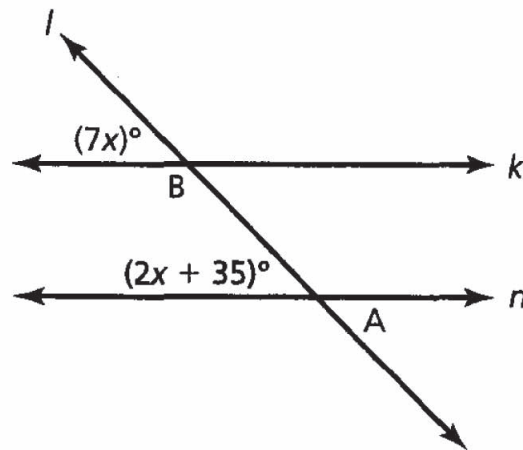$$\begin{array}{r} 180 \\ -\ \ 49 \\ \hline 131 \end{array}$$

Answer ____131°____ degrees

This response demonstrates partial understanding of the mathematical procedures and concepts embodied in the task. Parts A and C are correct. In Part B, the answer found for *x* in Part A is substituted in the equation. However, the 49° is then subtracted from 180°, therefore arriving at an incorrect answer.

Score Point - 2

45 In the figure below, lines *k* and *n* are parallel. Line *l* is a transversal.

[not drawn to scale]

Part A

What is the value of *x*?

Show your work.

$$7 \times 7 = \boxed{49}$$

$$2 \times 7 = 14 + 35$$

$$\boxed{49}$$

Answer _____7_____

Part B

What is the measure, in degrees, of ∠A?

Show your work.

$$2 \cdot 7 + 35$$
$$14 + 35$$
$$49$$

Answer _____49_____ degrees

Part C

What is the measure, in degrees, of ∠B?

Show your work.

$$\begin{array}{r} 1\,49 \\ +\ 49 \\ \hline 98 \end{array}$$

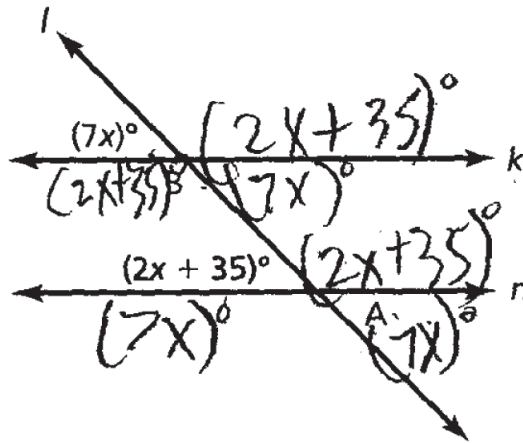$$\begin{array}{r} 0\,7 \\ \cancel{1}80 \\ -\ 98 \\ \hline 82 \end{array}$$

Answer _____82_____ degrees

This response demonstrates only a limited understanding of the mathematical concepts embodied in the task. The method of guess-and-check is used in Part A without a sufficient number of attempts. Part B is correct. Part C is incorrect.

Score Point - 1

45 In the figure below, lines *k* and *n* are parallel. Line *l* is a transversal.

[not drawn to scale]

Part A

What is the value of *x*?

Show your work.

$(2x+35)$
$39°$

$\dfrac{5.2}{7\overline{\smash{)}37}}$

Answer ___5.2___

Part B

What is the measure, in degrees, of ∠A?

Show your work.

<A less thatAn

(2 x + 35)

37° 37°

Answer _____37°_____ degrees

Part C

What is the measure, in degrees, of ∠B?

Show your work.

∠B less than

(7x°)

7x

Answer _____7x_____ degrees

This response is completely incorrect.

Score Point - 0

Grade 8

Mathematics

Scoring Guide
Sample Test 2005