# New York State Testing Program

## 2023

### Mathematics Test

### Grade 6

### Scoring Leader Materials

### Training Set

## Note to Scorers

You may notice that some questions in these scoring materials appear with a bracketed credit value showing the respective number of credits. This is due to a style change that was recently field tested; therefore, not all items will have the bracketed credit value. An example of what the bracketed credit value looks like is provided below for your reference.

Example:  Stem of the question.  [2]

# Grade 6 Mathematics Reference Sheet
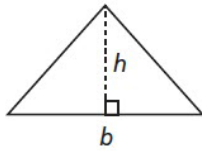
## *CONVERSIONS*

1 yard = 3 feet
1 mile = 5,280 feet

1 cup = 8 fluid ounces
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts
1 liter = 1,000 milliliters

1 pound = 16 ounces
1 ton = 2,000 pounds
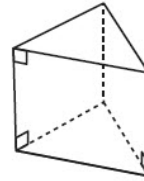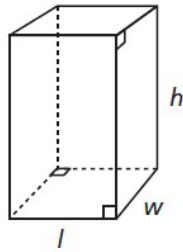1 kilogram = 1,000 grams

## *FORMULAS AND FIGURES*

**Triangle**

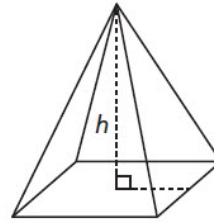$$A = \frac{1}{2}bh$$

**Right Triangular Prism**

**Right Rectangular Prism**

$$V = lwh$$
$$V = Bh$$

**Right Rectangular Pyramid**

**1-Credit Constructed-Response Rubric**

| 1 Credit | A 1-credit response is a **correct answer** to the question which indicates a thorough understanding of mathematical concepts and/or procedures. |
| --- | --- |
| 0 Credits* | A 0-credit response is incorrect, irrelevant, or incoherent. |

\* Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

**2-Credit Constructed-Response Holistic Rubric**

| 2 Credits | A 2-credit response includes the correct solution to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task. This response <ul><li>indicates that the student has completed the task correctly, using mathematically sound procedures</li><li>contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures</li><li>may contain inconsequential errors that do not detract from the correct solution and the demonstration of a thorough understanding</li></ul> |
| --- | --- |
| 1 Credit | A 1-credit response demonstrates only a partial understanding of the mathematical concepts and/or procedures in the task. This response <ul><li>correctly addresses only some elements of the task</li><li>may contain an incorrect solution but applies a mathematically appropriate process</li><li>may contain the correct solution but required work is incomplete</li></ul> |
| 0 Credits* | A 0-credit response is incorrect, irrelevant, incoherent, or contains a correct solution obtained using an obviously incorrect procedure. Although some elements 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 is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

## 3-Credit Constructed-Response Holistic Rubric

| | |
|---|---|
| **3 Credits** | A 3-credit response includes the correct solution(s) to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task.<br><br>This response<br><br>&bull; indicates that the student has completed the task correctly, using mathematically sound procedures<br>&bull; contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures<br>&bull; may contain inconsequential errors that do not detract from the correct solution(s) and the demonstration of a thorough understanding |
| **2 Credits** | A 2-credit response demonstrates a partial understanding of the mathematical concepts and/or procedures in the task.<br><br>This response<br><br>&bull; appropriately addresses most but not all aspects of the task using mathematically sound procedures<br>&bull; may contain an incorrect solution but provides sound procedures, reasoning, and/or explanations<br>&bull; may reflect some minor misunderstanding of the underlying mathematical concepts and/or procedures |
| **1 Credit** | A 1-credit response demonstrates only a limited understanding of the mathematical concepts and/or procedures in the task.<br><br>This response<br><br>&bull; may address some elements of the task correctly but reaches an inadequate solution and/or provides reasoning that is faulty or incomplete<br>&bull; exhibits multiple flaws related to misunderstanding of important aspects of the task, misuse of mathematical procedures, or faulty mathematical reasoning<br>&bull; reflects a lack of essential understanding of the underlying mathematical concepts<br>&bull; may contain the correct solution(s) but required work is limited |
| **0 Credits\*** | A 0-credit response is incorrect, irrelevant, incoherent, or contains a correct solution obtained using an obviously incorrect procedure. Although some elements 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 is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted).

**2023 1-Credit Constructed-Response Mathematics Scoring Policies**

1. The student is **not** required to show work for 1-credit constructed-response question, therefore, any work shown will **not** be scored. A clearly identified correct response should still receive full credit.

2. If the student clearly identifies a correct answer but fails to write that answer in the answer space, the student should still receive full credit.

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

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

5. If the student provides more than one response but does not indicate which response is to be considered the correct response and none have been crossed out, the student shall not receive credit.

6. If the student does not provide the answer in the form as directed in the question, the student will not receive credit.

7. In questions requiring number sentences, the number sentences must be written horizontally.

8. When measuring angles with a protractor, there is a +/- 5 degrees deviation allowed of the true measure.

9. Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted). This is not to be confused with a score of zero wherein the student does respond to part or all of the question, but that work results in a score of zero.

# 2023 2- and 3-Credit Constructed-Response Mathematics Scoring Policies

1.  If a student shows the work in other than a designated "Show your work" or "Explain" area, that work should still be scored.

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

3.  If students are directed to show work or provide an explanation, a correct answer with **no** work shown or **no** explanation provided, receives **no** credit.

4.  If students are **not** directed to show work, any work shown will **not** be scored. This applies to questions that do **not** ask for any work and questions that ask for work for one part and do **not** ask for work in another part.

5.  If the student provides one legible response (and one response only), the rater 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, the rater should score only the response that has **not** been crossed out.

7.  If the student provides more than one response, but does not indicate which response is to be considered the correct response and none have been crossed out, the student shall not receive full credit.

8.  Trial-and-error responses are **not** subject to Scoring Policy #6 above, since crossing out is part of the trial-and-error process.

9.  If a response shows repeated occurrences of the same conceptual error within a question, the conceptual error should **not** be considered more than once in gauging the demonstrated level of understanding.

10. In questions requiring number sentences, the number sentences must be written horizontally.

11. When measuring angles with a protractor, there is a +/- 5 degrees deviation allowed of the true measure.

12. Condition Code A is applied whenever a student who is present for a test session leaves an entire constructed-response question in that session completely blank (no response attempted). This is not to be confused with a score of zero wherein the student does respond to part or all of the question but that work results in a score of zero.
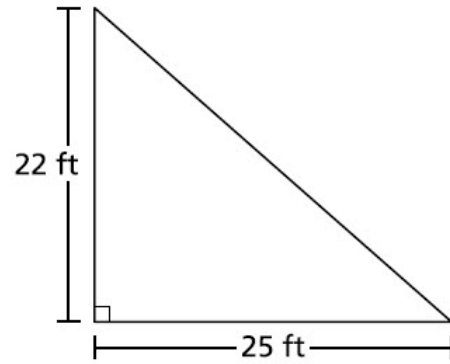
**37**

A right triangle is shown below.
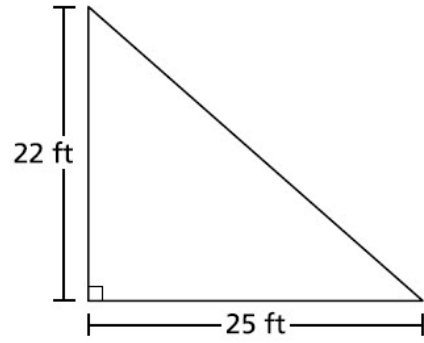


What is the area, in square feet, of the right triangle?

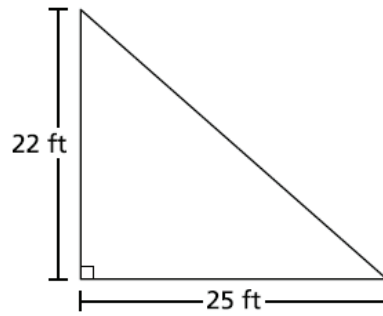*Answer* _____ square feet

**37**

A right triangle is shown below.



What is the area, in square feet, of the right triangle?

*Answer*   275 or A = 275   *or equivalent*   square feet

**37**

A right triangle is shown below.



22 ft

25 ft

What is the area, in square feet, of the right triangle?

_Answer_ | 275 | square feet

---

## Score Point 1 (out of 1 credit)

A correct answer is provided.

**37**

A right triangle is shown below.



22 ft

25 ft

What is the area, in square feet, of the right triangle? [1]

$A = \frac{1}{2} bh$

$A = \frac{1}{2} (25 \times 22)$

$A = \frac{1}{2} (550)$

$= 275 \, ft^2$

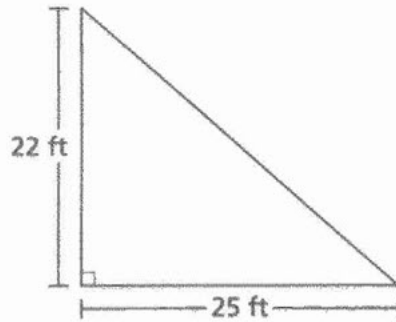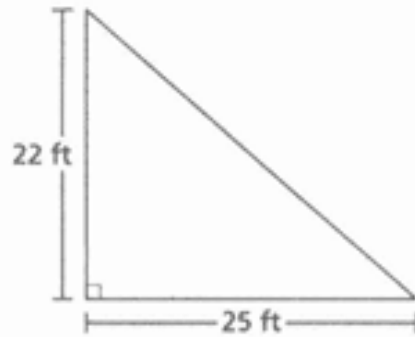Answer ___275___ square feet

---

## Score Point 1 (out of 1 credit)

A correct answer is provided.

**37**

A right triangle is shown below.



22 ft

25 ft

What is the area, in square feet, of the right triangle? [1]

$\frac{1}{2}bh$

22×25= 550

550÷2 =275

*Answer* _____245_____ square feet

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## Score Point 0 (out of 1 credit)

An incorrect answer is provided.

**38**

The lowest recorded temperatures for each of two states are listed below.

−27°F and −35°F

Write a statement using <, >, ≤, or ≥ to compare the recorded temperatures of the two states.

*Answer* _____

**38**

The lowest recorded temperatures for each of two states are listed below.

   $-27°F$ and $-35°F$

Write a statement using $<$, $>$, $\leq$, or $\geq$ to compare the recorded temperatures of the two states.

**Answer** $\underline{\phantom{xx} -27 > -35 \quad or\ equivalent \phantom{xx}}$

**38**

The lowest recorded temperatures for each of two states are listed below.

$-27°F$ and $-35°F$

Write a statement using $<$, $>$, $\leq$, or $\geq$ to compare the recorded temperatures of the two states.

**Answer** | -27 > -35 |

---

## Score Point 1 (out of 1 credit)

A correct answer is provided.

**38**

The lowest recorded temperatures for each of two states are listed below.

$$-27°F \text{ and } -35°F$$

Write a statement using $<$, $>$, $\leq$, or $\geq$ to compare the recorded temperatures of the two states. [1]

-27 Hotter

-35 colder

0
10
20
27
30
35

Answer ___ -27 > -35 ___

---

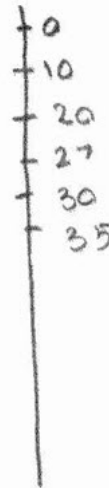## Score Point 1 (out of 1 credit)

A correct answer is provided.

**38**

The lowest recorded temperatures for each of two states are listed below.

−27°F and −35°F

Write a statement using <, >, ≤, or ≥ to compare the recorded temperatures of the two states.

*Answer*  -27 <  -35

---

## Score Point 0 (out of 1 credit)

An incorrect answer is provided.

**39**

A set of shapes is shown below.



What is the ratio of the number of circles to the total number of shapes?

*Answer* _____

**39**

A set of shapes is shown below.
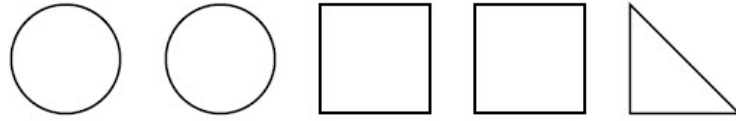


What is the ratio of the number of circles to the total number of shapes?

*Answer*    $2 : 5 \text{ or } 2 \text{ to } 5 \text{ or } \frac{2}{5}$    *or equivalent*

**39**

A set of shapes is shown below.



What is the ratio of the number of circles to the total number of shapes?

**Answer** 2:5

---

**Score Point 1 (out of 1 credit)**

A correct answer is provided.

**39**

A set of shapes is shown below.

What is the ratio of the number of circles to the total number of shapes? [1]

2 circles

total shapes = 5 shapes

circles to the total number of shapes

= 2:5

Answer    2:5

**Score Point 1 (out of 1 credit)**

A correct answer is provided.

**39**

A set of shapes is shown below.



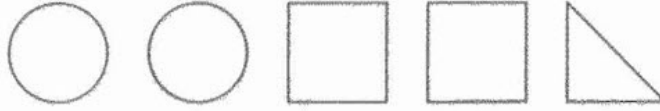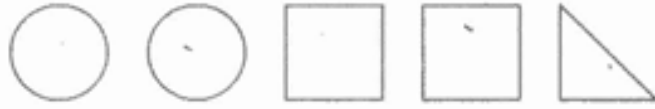What is the ratio of the number of circles to the total number of shapes? [1]

Answer  2 − 5

---

## Score Point 0 (out of 1 credit)

An incorrect answer is provided.

**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side, with no space between the tiles. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of $x$ inches.
- The middle tile is shaped like a rectangle with a width of $x$ inches and a length of $3x$ inches.
- The third tile is shaped like a square with side lengths of $x$ inches.

The perimeter of the tile pattern is 60 inches. What is the value of $x$ in the tile pattern?

*Show your work.*

*Answer* _____ inches

**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side, with no space between the tiles. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of $x$ inches.
- The middle tile is shaped like a rectangle with a width of $x$ inches and a length of $3x$ inches.
- The third tile is shaped like a square with side lengths of $x$ inches.

The perimeter of the tile pattern is 60 inches. What is the value of $x$ in the tile pattern?

*Show your work.*

$$P = 3x + 3x + 3x + 3x = 12x$$

$$60 = 12x$$

$$x = 60 \div 12$$

$$x = 5 \text{ inches}$$

*or other valid process*

*Answer* ___5___ inches

**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side, with no space between the tiles. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of *x* inches.
- The middle tile is shaped like a rectangle with a width of *x* inches and a length of 3*x* inches.
- The third tile is shaped like a square with side lengths of *x* inches.

The perimeter of the tile pattern is 60 inches. What is the value of *x* in the tile pattern?

*Show your work.*

1st tile = all x's
2nd tile= width of x and a length of 3x inches
3rd tile= all x's

$$x + x + x + 3x + 3x + x + x + x = 60 \text{ inches}$$
$$12x = 60 \text{ inches}$$
$$60 \div 12 = 5 \text{ inches.}$$

*Answer* | The value of x is 5. | inches

---

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. A correct equation is written, and it is correctly solved to determine the value of *x*. This response is complete and correct.
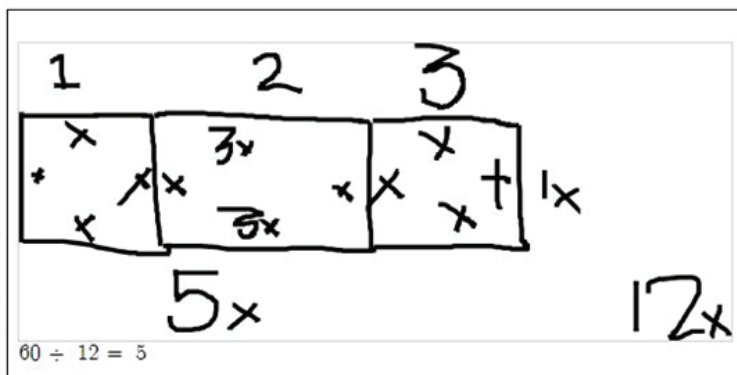
**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side, with no space between the tiles. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of $x$ inches.
- The middle tile is shaped like a rectangle with a width of $x$ inches and a length of $3x$ inches.
- The third tile is shaped like a square with side lengths of $x$ inches.

The perimeter of the tile pattern is 60 inches. What is the value of $x$ in the tile pattern?

*Show your work.*



*Answer* 5 inches

---

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. A correct representation of the placed tiles is drawn, and it is correctly used to determine the algebraic expression that represents the perimeter of the tile pattern and the value of $x$. This response is complete and correct.
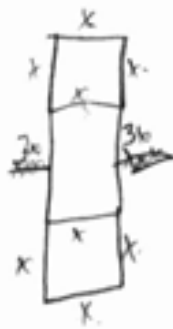
# GUIDE PAPER 3

**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of $x$ inches.

- The middle tile is shaped like a rectangle with a width of $x$ inches and a length of $3x$ inches.

- The third tile is shaped like a square with side lengths of $x$ inches.

The perimeter of the tile pattern is 60 inches. What is the value of $x$ in the tile pattern?

*Show your work.*

$$X \neq 4$$

$$\begin{array}{r} 12 \\ + 12 \\ \hline 24 \\ + 16 \\ \hline 40 \\ + 16 \\ \hline 56 \end{array}$$

$x + x$

$$12x = 60$$

$$12 \times 5$$

*Answer* _____**5**_____ *inches*

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## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. A correct representation of the placed tiles is drawn. A correct equation is written, and it is correctly solved to determine the value of $x$. This response is complete and correct.

**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side, with no space between the tiles. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of *x* inches.
- The middle tile is shaped like a rectangle with a width of *x* inches and a length of 3*x* inches.
- The third tile is shaped like a square with side lengths of *x* inches.

The perimeter of the tile pattern is 60 inches. What is the value of *x* in the tile pattern?

*Show your work.*



*Answer*   x=12   inches

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. A correct representation of the placed tiles is drawn, and a correct algebraic expression representing the perimeter of the pattern is written. Although the value of *x* is correctly calculated in the work, an incorrect solution is provided. This response correctly addresses only some elements of the task.

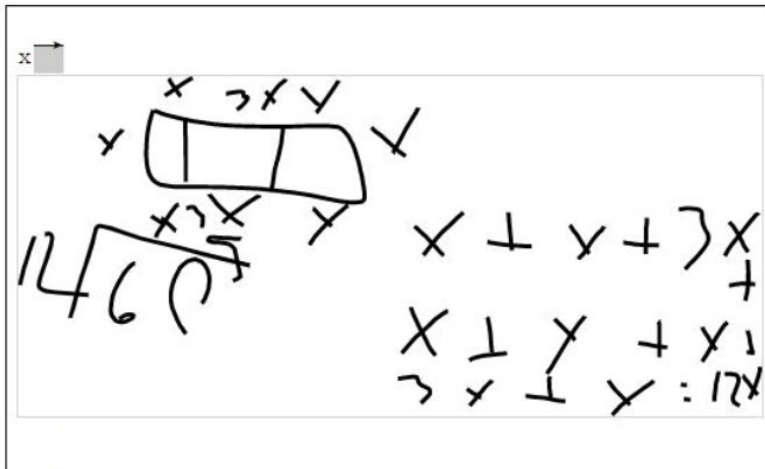**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of $x$ inches.

- The middle tile is shaped like a rectangle with a width of $x$ inches and a length of $3x$ inches.

- The third tile is shaped like a square with side lengths of $x$ inches.

The perimeter of the tile pattern is 60 inches. What is the value of $x$ in the tile pattern?

*Show your work.*

$$\begin{array}{r} 6 \\ 10\,\overline{)60} \\ 60 \end{array}$$

$$\overset{1}{x} + x + x + 3x \overset{2}{+} x + \overset{3}{x+x+x}$$

$$6+6+6 + 3(6)+6 + 6 + 6 + 6$$

$$18 + 18 + 18 + 6$$

$$54 + 6$$

$$60$$

Answer _____**6**_____ inches

---

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. A partially correct algebraic expression representing the perimeter of the pattern is written, with one side length inappropriately represented as $x$ instead of $3x$. The written expression is correctly used to determine a solution for $x$. This response correctly addresses only some elements of the task.

**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of $x$ inches.

- The middle tile is shaped like a rectangle with a width of $x$ inches and a length of $3x$ inches.

- The third tile is shaped like a square with side lengths of $x$ inches.

The perimeter of the tile pattern is 60 inches. What is the value of $x$ in the tile pattern?

*Show your work.*

$$10 \quad 3x$$

$$P = 60 \text{ inches}$$

$$3x + x + x + x$$

$$\frac{6x}{6} = \frac{60}{6}$$

$$= 10$$
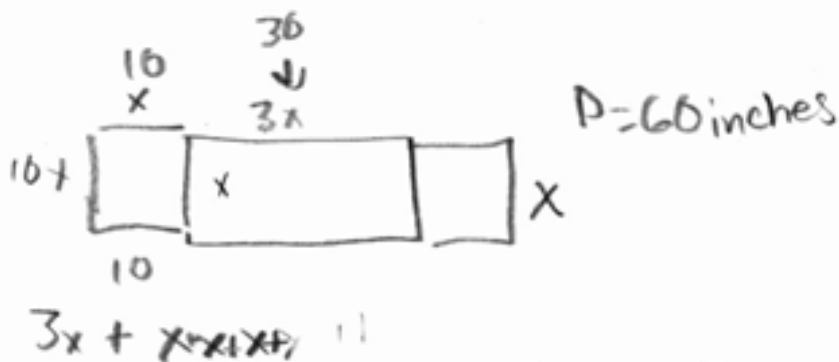
*Answer* ___10___ inches

---

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. A correct representation of the placed tiles is drawn, with some of the sides appropriately marked with lengths $x$ and $3x$. The perimeter of the pattern is misrepresented algebraically in the written equation; however, the written equation is correctly solved to determine a solution for $x$. This response correctly addresses only some elements of the task.

**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of $x$ inches.

- The middle tile is shaped like a rectangle with a width of $x$ inches and a length of $3x$ inches.

- The third tile is shaped like a square with side lengths of $x$ inches.

The perimeter of the tile pattern is 60 inches. What is the value of $x$ in the tile pattern?

*Show your work.*

$$\frac{3x}{3} = \frac{60}{3}$$

$$x = 20$$

$$3\overline{)60}$$

*Answer* $X = 20$ _____ inches
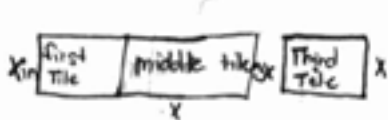
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## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The perimeter of the pattern is misrepresented algebraically in the written equation. Although the written equation is solved correctly, holistically, the work is not sufficient to show any understanding.

**40**

Lee makes a rectangular-shaped tile pattern by placing three tiles side by side. The list below describes the shape of each tile and the order in which they are placed.

- The first tile is in the shape of a square with side lengths of $x$ inches.

- The middle tile is shaped like a rectangle with a width of $x$ inches and a length of $3x$ inches.

- The third tile is shaped like a square with side lengths of $x$ inches.

The perimeter of the tile pattern is 60 inches. What is the value of $x$ in the tile pattern?

*Show your work.*



$3x$      $X = 5$

Answer _____5_____ inches

---

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although a correct solution is provided, the drawing is incorrect. The work does not support the obtained solution and it is not clear how it is obtained. Holistically, this response is insufficient to show any understanding.

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00.
- Store XYZ sells 8 of these candles for $14.00.

Which store sells the candle for a lower unit rate?

*Explain how you determined your answer.*

_____

_____

_____

# EXEMPLARY RESPONSE

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00.
- Store XYZ sells 8 of these candles for $14.00.

Which store sells the candle for a lower unit rate?

*Explain how you determined your answer.*

ABC: $12 \div 6 = 2$ dollars per candle

XYZ: $14 \div 8 = 1.75$ dollars per candle

Store XYZ has a lower unit rate.

*or other valid explanation*

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00. $\frac{12}{6} = 2$
- Store XYZ sells 8 of these candles for $14.00. $\frac{14}{6} = 1.75$

Which store sells the candle for a lower unit rate? [2]

*Explain how you determined your answer.*

Store XYZ is the better store to buy candles because it has a lower unit rate.

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. Store XYZ is correctly identified to have a lower cost per candle, and the process of determining the unit rates at each store is correctly explained to support the answer. Per Scoring Policy #1 for 2- and 3- credit responses, the work shown in other than a designated "Explain" area should still be scored. The explanation is complete and correct.

# GUIDE PAPER 2

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00.
- Store XYZ sells 8 of these candles for $14.00.

Which store sells the candle for a lower unit rate?

*Explain how you determined your answer.*

> Store XYZ sells for the lower unit rate because Store ABC costs $2.00 for each candle (6x2=$12.00) and Store XYZ sells for less because 8x2 does not equal $14.00 it equals $16.00.

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. Store XYZ is correctly identified to have a lower cost per candle, and the process of determining the unit rate at store ABC is correctly explained. Although the unit rate at store XYZ is not calculated, the explanation is sufficient to support the choice of store XYZ.

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00.

- Store XYZ sells 8 of these candles for $14.00.

Which store sells the candle for a lower unit rate? [2]

*Explain how you determined your answer.*

XYZ, I got this answer by dividing 8 and 14.

ABC 6)12   2 dollars

XYZ 8)1400   1.75 dollars
    8
    60
   -56
    40

---

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. Store XYZ is correctly identified to have a lower cost per candle, and the process to determine the unit rates using division is correctly explained to support the answer. Although the phrase "*by dividing 8 and 14*" does not specify the order of division, the division is performed correctly. The explanation is sufficient to show a thorough understanding.

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00.
- Store XYZ sells 8 of these candles for $14.00.

Which store sells the candle for a lower unit rate? [2]

*Explain how you determined your answer.*

XYZ sells the candles for a lower unit price because ABC's candles cost $2 per candle and XYZ's candle cost $1.75 per candle. 2 > 1.75.

ABC: $12.00 for 6 candles
XYZ: $14.00 for 8 candles

ABC: $2 per candle

XYZ: $1.75 per candle.

2 > 1.75

---

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Store XYZ is correctly identified to have a lower cost per candle; however, the explanation is incomplete. Although the unit rates are correctly compared, the process of calculating the cost per candle is not explained. This response correctly addresses only some elements of the task.

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00.

- Store XYZ sells 8 of these candles for $14.00.

Which store sells the candle for a lower unit rate? [2]

*Explain how you determined your answer.*

I did 12 ÷ 6 and 14 ÷ 8 and got $2 and $1.75. Then I chose the smaller amount as my answer.

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Although the process of calculating the unit rates is correctly explained, the store with the lower unit rate is not identified, and it is not clear from the explanation which store has a lower cost per candle. This response correctly addresses only some elements of the task.

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00.
- Store XYZ sells 8 of these candles for $14.00.

Which store sells the candle for a lower unit rate?

*Explain how you determined your answer.*

> Store XYZ sell candles for a lower unit rate because for every one candle cost $1.60 and store ABC sells $2.00 for one candle.

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The unit rate at store ABC is correctly calculated, and store XYZ is correctly identified to have a lower cost per candle; however, the unit rate at store XYZ is incorrect, and it is not clear from the explanation how the cost per candle is determined. This response correctly addresses only some elements of the task.

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00.
- Store XYZ sells 8 of these candles for $14.00.

Which store sells the candle for a lower unit rate?

*Explain how you determined your answer.*

> yuo get more more from store ABC because 6 times 2 gets you 12 and nothing times 8 gets you 14.

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although 2 is used to show the cost of candles at store ABC, store ABC is incorrectly chosen to have a lower unit rate, the cost per candle at store XYZ is not determined, and the phrase "*nothing times 8 gets you 14*" is incorrect. Holistically, the explanation is insufficient to show any understanding.

**41**

The list below shows the cost of the same candle at two different stores.

- Store ABC sells 6 of these candles for $12.00.
- Store XYZ sells 8 of these candles for $14.00.

Which store sells the candle for a lower unit rate? [2]

*Explain how you determined your answer.*

Store XYZ is better, I determined
my answer by finding the unit rate
for both.



## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although store XYZ is correctly identified to have a lower cost per candle, the unit rates are not determined, and the process is not explained. The explanation is insufficient to show any understanding of the task.

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of cereal are in the box?

*Show your work.*

*Answer* _____ servings

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of cereal are in the box?

*Show your work.*

$8\frac{1}{4} \div \frac{3}{4} =$

$33\frac{1}{4} \div \frac{3}{4} =$

$33\frac{1}{4} \times \frac{4}{3} =$

$132\frac{1}{12} = 33\frac{1}{3} = 11$

*or*

$8.25 \div 0.75 = 11$

*or other valid process*

**Answer** $\underline{\quad 11 \quad or\ equivalent \quad}$ servings

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of cereal are in the box?

*Show your work.*

$$8\frac{1}{4} = \frac{33}{4}$$

$$\frac{33}{4} \div \frac{3}{4} = \frac{33}{4} \times \frac{4}{3}$$

$$\frac{33}{4} \times \frac{4}{3} = \frac{132}{12}$$

$$\frac{132}{12} = 11$$

**Answer** 11 servings

---

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The mixed number is correctly converted to an improper fraction, and multiplication and division are correctly performed to determine the total number of servings of cereal. This response is complete and correct.

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of cereal are in the box?

*Show your work.*

$8\frac{1}{4}$ <-turn into improper fraction- $\frac{33}{4}$ <- subtract $\frac{3}{4}$ 11 times and there will be no more times you can serve there for there are 11 servings in the cerial box.

*Answer* | 11 servings. | servings

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The mixed number is correctly converted to an improper fraction, and a correct process of repeated subtraction is used to determine the correct solution. This response is complete and correct.

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of

cereal are in the box? [2]

*Show your work.*

$$\frac{1}{\frac{3}{4}}, \frac{2}{1\frac{2}{4}}, \frac{3}{2\frac{1}{4}}, \frac{4}{3}, 3\frac{3}{4}, 4\frac{2}{4}, 5\frac{1}{4}, \frac{8}{6}, 6\frac{3}{4}, \frac{10}{7\frac{3}{4}}, \frac{11}{8\frac{1}{4}}$$

1  2  3  4

Answer ___11___ servings

---

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. A correct process of repeated addition is used to determine the total number of servings of cereal. This response is complete and correct.

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of cereal are in the box? [2]

*Show your work.*

$8\frac{1}{4}$

$$\frac{36}{4} \div \frac{3}{4}$$

$$\frac{36}{4} \times \frac{4}{3}$$

$$= \frac{144}{12}$$

$$\begin{array}{r} 36 \\ \times\ 4 \\ \hline 144 \end{array}$$

$$12\overline{)144}$$

*Answer* ___12___ servings

---

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. An error occurs when converting the mixed number to an improper fraction ($8\frac{1}{4} \neq \frac{36}{4}$). The rest of the work is carried out correctly using multiplication and division procedures to determine the total number of servings. This response contains an incorrect solution but applies a mathematically appropriate process.

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of cereal are in the box?

**Show your work.**

$$8\frac{1}{4} = \frac{33}{4}$$

$$\frac{33}{4} \div \frac{3}{4} = \frac{33}{4} \times \frac{4}{3} = \frac{132}{12} = 11\frac{1}{4}$$

**Answer** $\boxed{11\frac{1}{4}}$ servings

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The mixed number is correctly converted to an improper fraction, and a correct process is written to determine the total number of cereal servings; however, a calculation error occurs when dividing 132 by 12. This response contains an incorrect solution but applies a mathematically appropriate process.

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of cereal are in the box?

*Show your work.*

$$8\frac{1}{4} = \frac{33}{4}$$

$$\frac{33}{4} \div \frac{3}{4} = \frac{11}{4}$$

There are $\frac{11}{4}$ servings of cereal.

*Answer* _____ servings

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The mixed number is correctly converted to an improper fraction, and a correct division process is written to determine the total number of cereal servings; however, a calculation error occurs when dividing fractions. This response contains an incorrect solution but applies a mathematically appropriate process.

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of cereal are in the box? [2]

*Show your work.*

Answer _____ servings

---

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although a correct solution is stated, no work is provided to support the correct solution. Per Scoring Policy #3 for 2- and 3- credit responses, this response receives no credit.

**42**

A box contains $8\frac{1}{4}$ cups of cereal. One serving of cereal is $\frac{3}{4}$ cup. How many servings of cereal are in the box?

*Show your work.*

$$8\frac{1}{4} = \frac{32}{4} = 32 \div 4 = 8$$
$$8\frac{3}{4}$$

*Answer* $\boxed{8\frac{3}{4}}$ servings

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The mixed number is incorrectly written as an improper fraction, and the rest of the work is incorrect. Holistically, this response shows no overall understanding.

**43**

What is the value of the expression $7 \times (5 - 3)^3 - 20 \div 4$?

*Show your work.*

*Answer* _____

**43**

What is the value of the expression $7 \times (5-3)^3 - 20 \div 4$?

*Show your work.*

$$7 \times (5-3)^3 - 20 \div 4 =$$

$$7 \times (2)^3 - 20 \div 4 =$$

$$7 \times 8 - 20 \div 4 =$$

$$56 - 5 = 51$$

*or other valid process*

Answer _____51_____

**43**

What is the value of the expression $7 \times (5 - 3)^3 - 20 \div 4$ ? [2]

*Show your work.*

$$7 \times (5 - 3)^3 - 20 \div 4$$

$$7 \times (2)^3 - 20 \div 4$$

$$7 \times 8 - 20 \div 4$$

$$56 - 20 \div 4$$

$$56 - 5$$

$$\boxed{51}$$

P ✓
E ✓
M ✓✓
D ✓
✗
S ✓

Answer ___51___

---

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The operations are performed in the correct order, and the value of the expression is correctly determined. This response is complete and correct.

**43**

What is the value of the expression $7 \times (5-3)^3 - 20 \div 4$?

*Show your work.*

$[7 \times 2^3] - 5$
$[7 \times 8] - 5$
$56 - 5 = 51$

*Answer*  | The valu eof the expression is 51

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The steps of evaluating the expression are correctly shown, and a correct value of the expression is provided. Holistically, this response contains sufficient work to show a thorough understanding.

**43**

What is the value of the expression $7 \times (5-3)^3 - 20 \div 4$?

*Show your work.*

5 - 3 = 2
$2^3$ = 8 × 7 = 56
20 ÷ 4 = 5
56 − 5 = 51

*Answer* 51

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The operations are performed in the correct order, and the value of the expression is correctly determined. The response is complete and correct.

**43**

pemdas

What is the value of the expression $7 \times (5 - 3)^3 - 20 \div 4$? [2]

*Show your work.*

$$7 \times (5 - 3)^3 - 20 \div 4$$

$$7 \times 2 - 20 \div 4$$

$$14 - 20 \div 4$$

$$14 - 5$$

$$9$$

Answer ___9___

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The operations are performed in the correct order; however, the exponent of 3 is ignored. The rest of the work is carried out correctly. This response correctly addresses only some elements of the task.

**43**

What is the value of the expression $7 \times (5 - 3)^3 - 20 \div 4$?

*Show your work.*

$7x(5-3)^3 - 20 \div 4$

56-20 ÷ 4

51

*Answer* 51

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Although the expression is evaluated correctly, the work showing the order of operations to evaluate the expression is limited. This response contains the correct solution, but the required work is incomplete.

**43**

What is the value of the expression $7 \times (5 - 3)^3 - 20 \div 4$?

*Show your work.*

$7 \times (5 - 3)$ to the 3rd power $- 20/4$
$7 \times 2$ to the 3rd power $- 20/4$
$7 \times 8 - 20/4$
$56 - 20/4$
$56/5$
$11.6$

*Answer*  11.6

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The order of operations is correctly followed on lines 1 through 4; however, the rest of the work contains errors: subtraction is inappropriately replaced with division, and the division is incorrectly carried out. This response correctly addresses only some elements of the task.

**43**

What is the value of the expression $7 \times (5 - 3)^3 - 20 \div 4$ ? [2]

*Show your work.*

$7 \times (5-3^3 \quad -20 \div 4 = 9$
$\quad (8)$

Answer _____ 9 _____

---

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the part of the expression in the parentheses is correctly evaluated to be 8, the rest of the work is missing, and an incorrect solution is provided. Holistically, the work is insufficient to show any understanding.

**43**

What is the value of the expression $7 \times (5-3)^3 - 20 \div 4$?

*Show your work.*

$$7 \times (5-3)^3 - 20 \div 4 = 51$$

*Answer* 51

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the expression is correctly evaluated, the response contains no work to support the correct solution. Per Scoring Policy #3 for 2- and 3- credit responses, this response receives no credit.

**44**

**This question is worth 2 credits.**

The tables below show the ratios of distance to time traveled by Car A and Car B.

**CAR A**

| Time (hours) | Distance (miles) |
|---|---|
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

**CAR B**

| Time (hours) | Distance (miles) |
|---|---|
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours?

*Show your work.*

*Answer* _____ miles

**44**

**This question is worth 2 credits.**

The tables below show the ratios of distance to time traveled by Car A and Car B.

**CAR A**

| Time (hours) | Distance (miles) |
|---|---|
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

**CAR B**

| Time (hours) | Distance (miles) |
|---|---|
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours?

**Show your work.**

Car A:  $130 \div 2 = 65$ miles/hour

$65 \times 8 = 520$ miles

Car B:  $186 \div 3 = 62$ miles/hour

$62 \times 8 = 496$ miles

$520 - 496 = 24$ miles

*or*

Car A:  $130 + 390 = 520$ miles

Car B:  $186 + 310 = 496$ miles

$520 - 496 = 24$ miles

*or other valid process*

**Answer** _____24_____ miles

**44**

The tables below show the ratios of distance to time traveled by Car A and Car B.

### CAR A

| Time (hours) | Distance (miles) |
|---|---|
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

### CAR B

| Time (hours) | Distance (miles) |
|---|---|
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours? [2]

*Show your work.*

$$\frac{130}{2} \underset{\times 4}{=} \frac{?}{8}$$

$$\frac{130}{2} \overset{\times 4}{\underset{\times 4}{=}} \frac{520}{8}$$

$$\frac{186}{3} \underset{\div 3}{=} \frac{?}{1} \qquad \frac{186}{3} \overset{\div 3}{\underset{\div 3}{=}} \frac{62}{1} \overset{\times 8}{\underset{\times 8}{=}} \frac{496}{8}$$

$$520 - 496 = $$
$$24 \text{ miles}$$

*Answer* ___24___ miles

---

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The distances traveled by each car are correctly determined by finding equivalent ratios. The two distances are correctly subtracted to determine the solution. This response is complete and correct.

**44**

The tables below show the ratios of distance to time traveled by Car A and Car B.

**CAR A**

| Time (hours) | Distance (miles) |
|---|---|
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

**CAR B**

| Time (hours) | Distance (miles) |
|---|---|
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours?

*Show your work.*

186 + 310 = 496
130 + 390 = 520
520 - 496 = 24

*Answer* 24 miles

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The distances traveled by each car are correctly determined by adding distances traveled after 2 and 6 hours for Car A, and after 3 and 5 hours for Car B. The two distances are correctly subtracted to determine the difference. This response is complete and correct.

**44**

The tables below show the ratios of distance to time traveled by Car A and Car B.

**CAR A**

| Time (hours) | Distance (miles) |
| --- | --- |
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

**CAR B**

| Time (hours) | Distance (miles) |
| --- | --- |
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours?

*Show your work.*

130 ÷ 2 = 65
8 x 65 = 520

186 ÷ 3 = 62
8 x 62 = 496

*Answer* 24 miles

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The speed and distances traveled by each car are correctly determined, and a correct difference between the distances is provided as a solution. Although the last step of subtracting the two distances is not shown, the response contains sufficient work to demonstrate a thorough understanding.

**44**

The tables below show the ratios of distance to time traveled by Car A and Car B.

CAR A

| Time (hours) | Distance (miles) |
|---|---|
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

CAR B

| Time (hours) | Distance (miles) |
|---|---|
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours?

*Show your work.*

Car a    2 hours 130, 4 hours 260, 6 hours 390, 8 hours 520

Car b 5 hours + 3 hours  =  8 hours
         310   +    186 =  496

*Answer*  496  miles

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The distances traveled by each car are correctly determined by continuing the pattern in the table for Car A and adding distances traveled for Car B; however, the difference between the two distances is not calculated. This response correctly addresses only some elements of the task.

**44**

The tables below show the ratios of distance to time traveled by Car A and Car B.

**CAR A**

| Time (hours) | Distance (miles) |
|---|---|
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

**CAR B**

| Time (hours) | Distance (miles) |
|---|---|
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours? [2]

*Show your work.*

| Time (hours) | Distance (miles) |
|---|---|
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |
| 8 | 520 |

| Time (hours) | Distance (miles) |
|---|---|
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |
| 9 | 558 |

```
  558
- 520
------
   38
```

*Answer* ___38___ miles

---

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The distance traveled by Car A is correctly determined by continuing the pattern in the table. The distance traveled by Car B is inappropriately calculated for 9 hours of travel. The obtained distances are correctly subtracted to determine the difference. This response correctly addresses only some elements of the task.

**44**

The tables below show the ratios of distance to time traveled by Car A and Car B.

| CAR A | |
| --- | --- |
| Time (hours) | Distance (miles) |
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

| CAR B | |
| --- | --- |
| Time (hours) | Distance (miles) |
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours? [2]

*Show your work.*

Car A for 8 hours is 520 miles

Car B for every 2 hours they go 124m

Car B for 8 hours would be 124 divided by 2 so 62 then add 434 and you get 496 miles

So Car A is faster by a 86 miles

$$\begin{array}{r} 520 \\ -434 \\ \hline 86 \end{array}$$

Answer _____96_____ miles

---

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The distance traveled by Car A is correctly stated with no work to show how the answer is obtained. The distance traveled by Car B is correctly determined by adding distances after 1 and 7 hours of travel. Although the distance of 496 miles is correctly calculated for Car B, 434 miles is used when calculating the difference between the two distances. This response correctly addresses only some elements of the task.

**44**

**This question is worth 2 credits.**

The tables below show the ratios of distance to time traveled by Car A and Car B.

**CAR A**

| Time (hours) | Distance (miles) |
|---|---|
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

**CAR B**

| Time (hours) | Distance (miles) |
|---|---|
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours?

**Show your work.**

carb 496 car a 520

**Answer** 520 miles

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the two distances are correctly calculated, they are not supported with any work, and it is not clear how they are obtained. The difference between the distances is not addressed, and one of the distances is inappropriately provided as the solution. Holistically, this response is insufficient to show any understanding of the task.

**44**

The tables below show the ratios of distance to time traveled by Car A and Car B.

**CAR A**

| Time (hours) | Distance (miles) |
|---|---|
| 2 | 130 |
| 4 | 260 |
| 6 | 390 |

**CAR B**

| Time (hours) | Distance (miles) |
|---|---|
| 3 | 186 |
| 5 | 310 |
| 7 | 434 |

If both cars maintain their rates of speed, what is the difference between the distances, in miles, traveled by Car A and by Car B after 8 hours?

*Show your work.*

$124 - 120$

*Answer*  4  miles

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Two incorrect distances are stated, and it is not clear how they are obtained. Although the two incorrect distances are correctly subtracted, holistically, this response is insufficient to show any understanding of the task.

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of 42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet, of the shipping container?

*Show your work.*

*Answer* _____ cubic feet

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of 42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet, of the shipping container?

*Show your work.*

$42 \times 5\frac{3}{4} =$

$42 \times \frac{23}{4} =$

$\frac{966}{4} = 241\frac{1}{2}$

*or other valid process*

*Answer* __241½ *or equivalent*__ cubic feet

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of 42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet, of the shipping container?

*Show your work.*

$$\frac{42}{1} \times 5\frac{3}{4} =$$

$$\frac{42}{1} \times \frac{23}{4} = \frac{966}{4} = 241\frac{1}{2}$$

*Answer* $\boxed{241\frac{1}{2}}$ cubic feet

---

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The volume of the shipping container is correctly determined using sound procedures. This response is complete and correct.

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of 42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet, of the shipping container? [2]

*Show your work.*

$V = b \cdot h$

$42 \times 5.75 = \boxed{241.5}$

*Answer* _____241.5_____ cubic feet

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The height of the container is correctly written as a decimal, and a correct procedure is applied to determine the volume of the shipping container. This response is complete and correct.

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of

42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet,

of the shipping container?

*Show your work.*

A rp = LWH
Base = B

Height = H          H = $5\frac{3}{4}$ = 5.75ft

Base is the length and width combined.

$5\frac{3}{4}$ × 42 = $241\frac{2}{4}$ = 241.5ft

*Answer*  241.5    cubic feet

## Score Point 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The volume of the shipping container is correctly determined using a sound procedure. Although incorrect units are referenced in the work, it does not detract from the demonstration of a thorough understanding.

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of 42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet, of the shipping container?

*Show your work.*

$$\frac{23}{4} \times 42 = 242$$

*Answer* 242 cubic feet

## Score Point 1 (out of 2 credits)

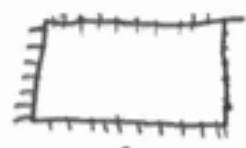This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The height of the container is correctly written as an improper fraction. A correct procedure is used to determine the volume of the container; however, the solution is inappropriately rounded. This response contains an incorrect solution but applies a mathematically appropriate process.

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of 42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet, of the shipping container? [2]

*Show your work.*

A=42 sqf

$5\frac{3}{4}$

$\frac{42}{1} \times \frac{18}{4} = \frac{756}{4} = 189$

Answer __189 cubic feet__ cubic feet

## Score Point 1 (out of 2 credits)
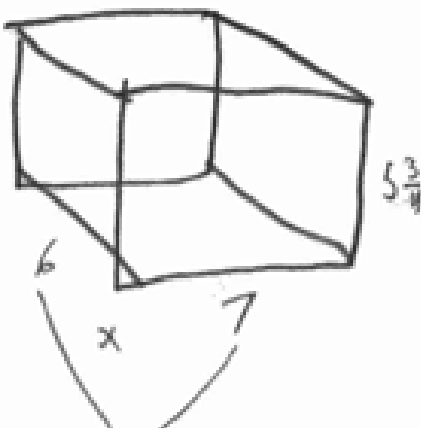
This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. An error occurs when converting the mixed number to an improper fraction ($5\frac{3}{4} \neq {}^{18}\!/_4$). The rest of the work is carried out correctly to determine the volume of the container. This response contains an incorrect solution but applies a mathematically appropriate process.

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of 42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet, of the shipping container? [2]

*Show your work.*



$$\frac{42}{1} \times \frac{23}{4} = \frac{966}{1} = 966$$

Answer ___966 $\mathcal{I}$ 966___ cubic feet

---

## Score Point 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The height of the container is correctly written as an improper fraction, and the work contains a correct procedure to determine the volume of the container; however, the division by 4 is ignored, resulting in an incorrect solution. The reference to the base dimensions within the diagram is considered inconsequential. This response correctly addresses only some elements of the task.

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of 42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet, of the shipping container? [2]

*Show your work.*

$42 \times 5\frac{3}{4} = (2)$

$21^3$

$42$ ☐ $5\frac{3}{4}$

$9?$

*Answer* ___9___ cubic feet

---

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although a correct process is written to determine the volume of the container, the multiplication is incorrectly carried out. A different incorrect solution is provided, and it is not clear how it is obtained. This response is incoherent, and, holistically, is insufficient to show any understanding.

**45**

A shipping container in the shape of a right rectangular prism has a base with an area of 42 square feet. The height of the container is $5\frac{3}{4}$ feet. What is the volume, in cubic feet, of the shipping container?

*Show your work.*

$V = lwh$     $V = 42(42)(5.75)$

$V = bh$      $V = 10{,}143$

*Answer*    $V = 10.143 \text{ in}^3$    cubic feet

## Score Point 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Although the height of the container is correctly written as a decimal, an extra term of 42 is used when determining the volume, and the solution is incorrectly written in decimal form. Holistically, this response shows no overall understanding.

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, *x*, he completes, and the amount of money, *y*, he earns.

**CHORE EARNINGS**
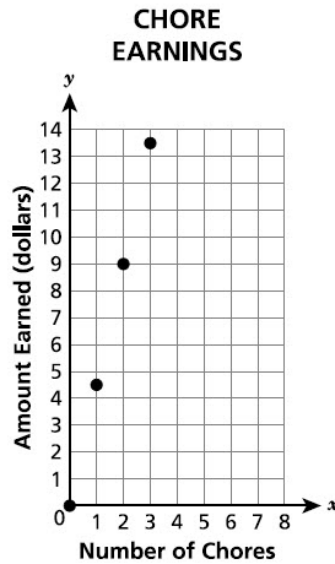


Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer.
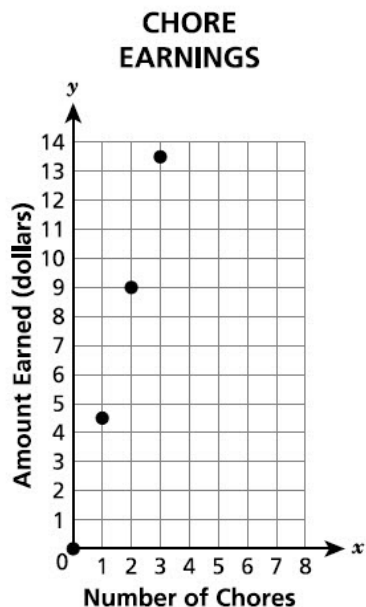
*Explain your answer.*

_____

_____

_____

Determine the total amount of money Logan will earn after completing 9 chores.

*Answer* $ _____

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, $x$, he completes, and the amount of money, $y$, he earns.

**CHORE EARNINGS**



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer.
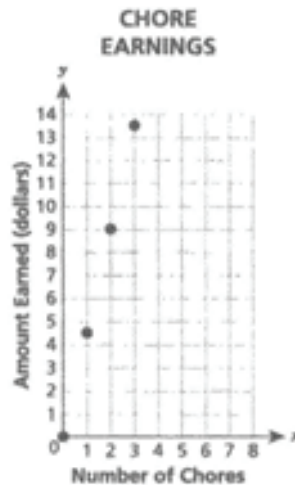
*Explain your answer.*

For every chore Logan completes, he earns $4.50. The dependent variable is the amount of money earned, and the independent variable is the number of chores.

*or other valid explanation*

Determine the total amount of money Logan will earn after completing 9 chores.

*Answer*  $ __40.50__

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, *x*, he completes, and the amount of money, *y*, he earns.

**CHORE EARNINGS**



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer. [3]

*Explain your answer.*

The relationship is each chore ts Logan does, he gets 4.50. The dependent variable is the Amount Earned and the indeperdt is the chores

Determine the total amount of money Logan will earn after completing 9 chores.

Answer $ _40.50_

$$\begin{array}{r} \overset{4}{4}.50 \\ \underline{\times\ 9} \\ 40.50 \end{array}$$
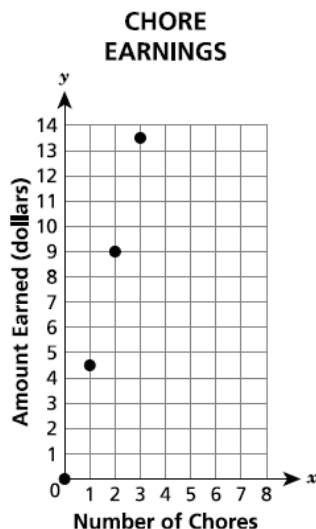
---

## Score Point 3 (out of 3 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The relationship between the number of chores and the amount of money earned is correctly explained, and the dependent and the independent variables are correctly identified. The total amount of money earned is correctly determined and is written in the money format correctly. This response is complete and correct.

# GUIDE PAPER 2

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, *x*, he completes, and the amount of money, *y*, he earns.

**CHORE EARNINGS**



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer.

*Explain your answer.*

> The dependent variable is the dollars and the independent variable is the number of chores. Logan makes $4.50 for each chore he does and how many chores he does you times chores and the dollars to get the amount of many he earned. So it depends on how many chores he does to get the amount of money he earns.

Determine the total amount of money Logan will earn after completing 9 chores.
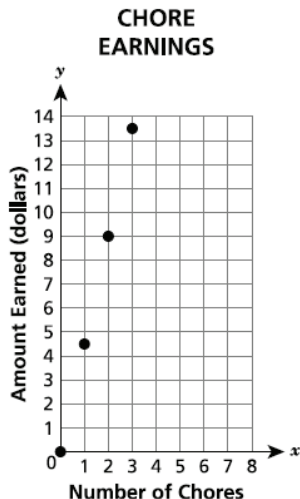
*Answer* $ 40.50

---

## Score Point 3 (out of 3 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The relationship between the number of chores and the amount of money earned is correctly explained, and the dependent and the independent variables are correctly identified. The total amount of money earned is correctly determined and is written in the money format correctly. This response is complete and correct.

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, $x$, he completes, and the amount of money, $y$, he earns.

CHORE
EARNINGS



Number of Chores

Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer.

*Explain your answer.*

$x \times 4\frac{1}{2} = y$     The independent variable is x and the dependent variable is y

$9 \times 4\frac{1}{2} = 40\frac{1}{2}$

Determine the total amount of money Logan will earn after completing 9 chores.
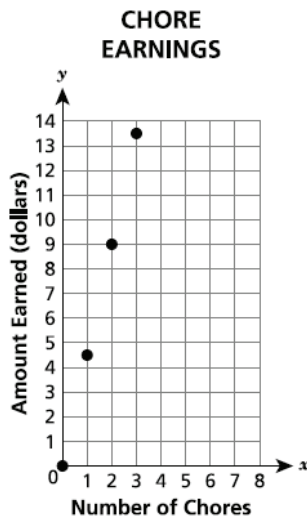
*Answer* $ 40.50

## Score Point 3 (out of 3 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. A correct equation is written to describe the relationship between the number of chores and the amount of money earned. The dependent and the independent variables are correctly identified. The total amount of money earned is correctly determined and is written in the money format correctly. This response contains sufficient work to show a thorough understanding.

# GUIDE PAPER 4

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, $x$, he completes, and the amount of money, $y$, he earns.

**CHORE EARNINGS**



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer.

*Explain your answer.*

> Every chore he does, he gets $4.50. The dependent variable is the fact that 1 chore=$4.50. The independent variable is the amount of chores he does.

Determine the total amount of money Logan will earn after completing 9 chores.
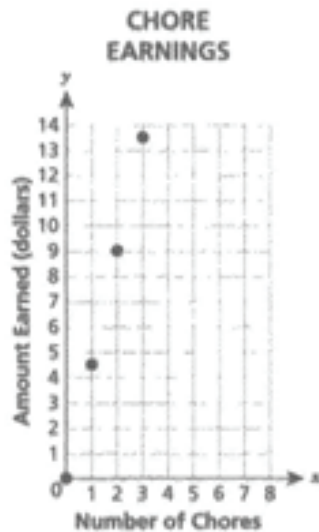
*Answer* $ 40.50

---

## Score Point 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task. The relationship between the number of chores and the amount of money earned is correctly explained, and the independent variable is correctly identified; however, the dependent variable is identified incorrectly. The total amount of money earned is correctly determined and is written in the money format correctly. This response reflects some minor misunderstanding of the underlying mathematical concepts.

# GUIDE PAPER 5

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, x, he completes, and the amount of money, y, he earns.

**CHORE EARNINGS**



Amount Earned (dollars)

Number of Chores

$$\begin{array}{r} 4{,}50 \\ \times\ 9 \\ \hline 40{,}50 \end{array}$$

Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer. [3]

*Explain your answer.*

The relashanship between chores and money is if one is greater the other becomes greater as well. The independant variable is 4,5 and the dependent variables are the chores and money

Determine the total amount of money Logan will earn after completing 9 chores.
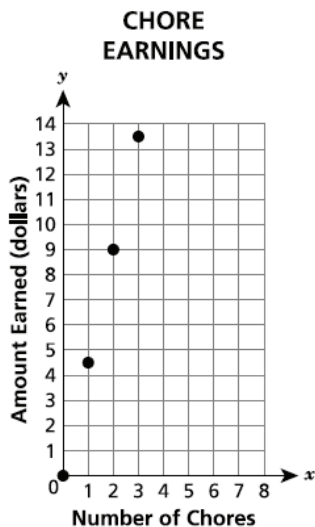
Answer $ __40,50__

---

## Score Point 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task. The relationship between the number of chores and the amount of money earned is correctly explained; however, the dependent and the independent variables are incorrectly identified. The total amount of money earned is correctly determined and is written in the money format correctly. This response appropriately addresses most, but not all, aspects of the task.

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, $x$, he completes, and the amount of money, $y$, he earns.

**CHORE EARNINGS**



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer.

*Explain your answer.*

logan gets $4.50 dollars for each chore he does

Determine the total amount of money Logan will earn after completing 9 chores.
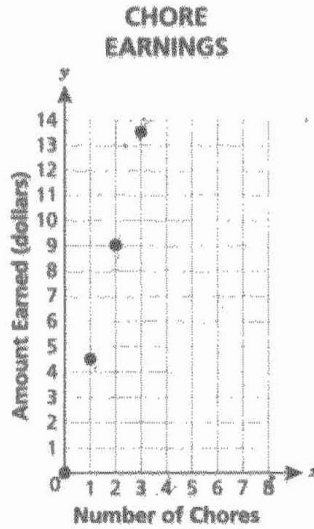
*Answer* $ $40.50

## Score Point 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task. The relationship between the number of chores and the amount of money earned is correctly explained; however, the dependent and independent variables are not identified. The total amount of money earned is correctly determined and is written in the money format correctly. This response appropriately addresses most, but not all, aspects of the task.

# GUIDE PAPER 7

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, x, he completes, and the amount of money, y, he earns.



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer. [3]

*Explain your answer.*

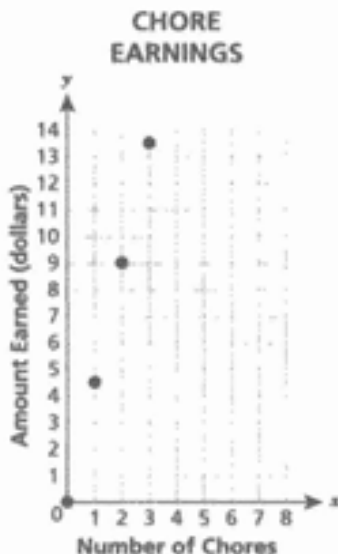I noticed that each Point doubles as it go's up.

Determine the total amount of money Logan will earn after completing 9 chores.

*Answer* $ __40.50__

---

## Score Point 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task. The relationship between the number of chores and the amount of money earned is incorrectly explained, and the dependent and independent variables are not identified. The total amount of money earned is correctly determined and is written in the money format correctly. This response exhibits multiple flaws related to misunderstanding of important aspects of the task.

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, x, he completes, and the amount of money, y, he earns.

**CHORE EARNINGS**



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer. [3]

*Explain your answer.*

The independed is the chores
and the dependent is the money.

Determine the total amount of money Logan will earn after completing 9 chores.
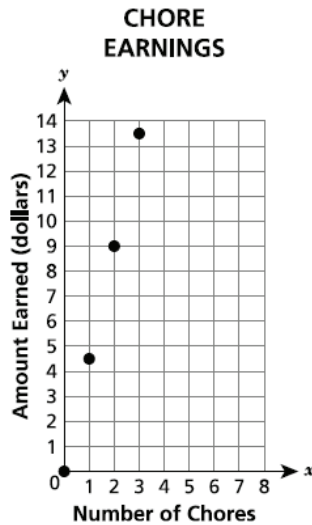
Answer $ 36

---

## Score Point 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task. The dependent and the independent variables are correctly identified; however, the relationship between the two variables is not explained, and an incorrect solution for the total amount of money earned is provided. This response addresses some elements of the task correctly but is faulty and incomplete.

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, *x*, he completes, and the amount of money, *y*, he earns.

**CHORE EARNINGS**



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer.

*Explain your answer.*

for numbers of chores 1 he earned $4.50 for numbers chores for 2 he earned $9 for number chores for 3 he earned $13.50

$$13.50 + 4.50 + 9 =$$

Determine the total amount of money Logan will earn after completing 9 chores.
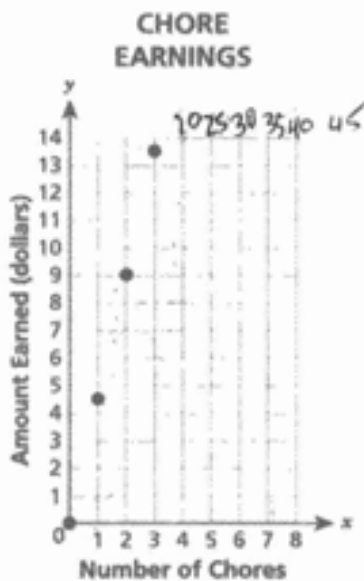
*Answer* $ 27

---

## Score Point 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task. The relationship between the number of chores and the amount of money earned is correctly explained; however, the dependent and the independent variables are not identified, and an incorrect solution for the total amount of money earned is provided. This response addresses some elements of the task correctly but is faulty and incomplete.

# GUIDE PAPER 10

**46**

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, x, he completes, and the amount of money, y, he earns.

**CHORE EARNINGS**



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer. [3]

*Explain your answer.*

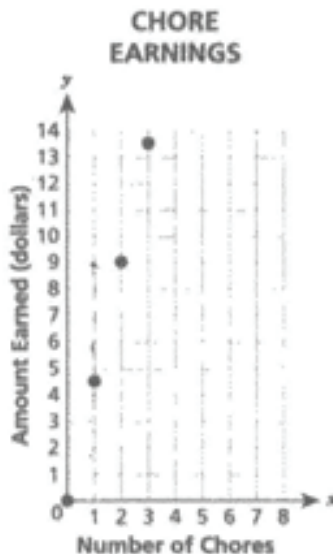He earns $5 more each time he completes a chore.

Determine the total amount of money Logan will earn after completing 9 chores.

Answer  $ _____45_____

---

## Score Point 0 (out of 3 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The amount of dollars earned per chore is inappropriately rounded, the dependent and the independent variables are not identified, and an incorrect solution is provided. Holistically, this response is insufficient to show any understanding of the task.

46

Logan earns money for completing chores. The graph shown below represents the relationship between the number of chores, *x*, he completes, and the amount of money, *y*, he earns.

**CHORE EARNINGS**



Based on the graph, explain the relationship between the number of chores Logan completes and the amount of money he earns. Be sure to identify the dependent and the independent variables in your answer. [3]

*Explain your answer.*

Well the relationship between the number of chores Logan Completes is high. Plus by adding up the numbers You get 27 but multiply and you get 64

Determine the total amount of money Logan will earn after completing 9 chores.

Answer $ ___64___

---

## Score Point 0 (out of 3 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Describing the relationship as "*is high*" is insufficient. The dependent and the independent variables are not identified, and an incorrect solution is provided. Holistically, this response is insufficient to show any understanding of the task.

**Grade 6**

**Mathematics**


**Scoring Leader Materials**

**2023 Training Set**