New York State Testing Program

2026

Mathematics Test

Grade 7

Scoring Leader Materials

Training Set

QAI30799

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 7 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 pound = 16 ounces
1 ton = 2,000 pounds

CONVERSIONS ACROSS MEASUREMENT SYSTEMS

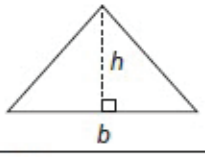
1 inch = 2.54 centimeters
1 meter = 39.37 inches
1 mile = 1.609 kilometers
1 kilometer = 0.6214 mile

1 gallon = 3.785 liters
1 liter = 0.2642 gallon

1 pound = 0.454 kilogram
1 kilogram = 2.2 pounds

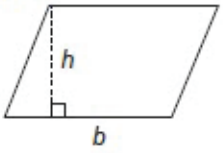
FORMULAS AND FIGURES

Triangle



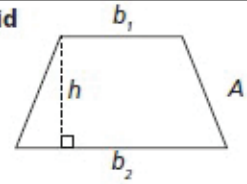
$A = \frac{1}{2}bh$

Parallelogram



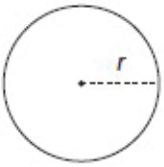
$A = bh$

Trapezoid



$A = \frac{1}{2}h(b_1 + b_2)$

Circle



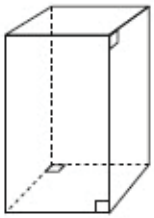
$C = 2\pi r$
$C = \pi d$
$A = \pi r^2$

Simple Interest

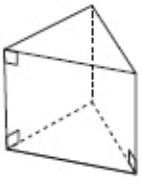
$I = prt$ where I is interest, p is principal, r is rate, and t is time

General Prism $V = Bh$

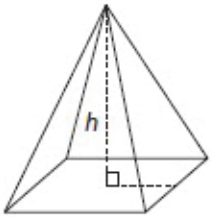
Right Rectangular Prism



Right Triangular Prism



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 • indicates that the student has completed the task correctly, using mathematically sound procedures • contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures • may contain inconsequential errors that do not detract from the correct solution and the demonstration of a thorough understanding
1 Credit	A 1-credit response demonstrates only a partial understanding of the mathematical concepts and/or procedures in the task. This response • correctly addresses only some elements of the task • may contain an incorrect solution but applies a mathematically appropriate process • may contain the correct solution but required work is incomplete
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. This response • indicates that the student has completed the task correctly, using mathematically sound procedures • contains sufficient work to demonstrate a thorough understanding of the mathematical concepts and/or procedures • 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. This response • appropriately addresses most but not all aspects of the task using mathematically sound procedures • may contain an incorrect solution but provides sound procedures, reasoning, and/or explanations • 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. This response • 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 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 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).

1-Credit Constructed-Response Mathematics Scoring Policies

1. The student is **not** required to show work for a 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.

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.

40

Mr. Morgano goes to the grocery store. The prices of different items are shown in the table below.

GROCERY ITEM PRICES

Item	Price
One pound of grapes	$1.59
One pound of turkey	$8.24
One loaf of bread	$1.33
One gallon of chocolate milk	$2.78

Mr. Morgano buys 3 pounds of grapes, $\frac{1}{2}$ pound of turkey, 2 loaves of bread, and 1 gallon of chocolate milk. He pays with a $20.00 bill. How much change, in dollars, should Mr. Morgano receive?

Answer $ _____

EXEMPLARY RESPONSE

40

Mr. Morgano goes to the grocery store. The prices of different items are shown in the table below.

GROCERY ITEM PRICES

Item	Price
One pound of grapes	$1.59
One pound of turkey	$8.24
One loaf of bread	$1.33
One gallon of chocolate milk	$2.78

Mr. Morgano buys 3 pounds of grapes, $\frac{1}{2}$ pound of turkey, 2 loaves of bread, and 1 gallon of chocolate milk. He pays with a $20.00 bill. How much change, in dollars, should Mr. Morgano receive?

Answer $ 5.67

GUIDE PAPER 1

40

Mr. Morgano goes to the grocery store. The prices of different items are shown in the table below.

GROCERY ITEM PRICES

Item	Price
One pound of grapes	$1.59
One pound of turkey	$8.24
One loaf of bread	$1.33
One gallon of chocolate milk	$2.78

Mr. Morgano buys 3 pounds of grapes, $\frac{1}{2}$ pound of turkey, 2 loaves of bread, and 1 gallon of chocolate milk. He pays with a $20.00 bill. How much change, in dollars, should Mr. Morgano receive?

Answer $ 5.67

Score Credit 1 (out of 1 credit)

A correct answer is provided.

GUIDE PAPER 2

40

Mr. Morgano goes to the grocery store. The prices of different items are shown in the table below.

GROCERY ITEM PRICES

Item	Price
One pound of grapes	$1.59
One pound of turkey	$8.24
One loaf of bread	$1.33
One gallon of chocolate milk	$2.78

Mr. Morgano buys 3 pounds of grapes, $\frac{1}{2}$ pound of turkey, 2 loaves of bread, and 1 gallon of chocolate milk. He pays with a $20.00 bill. How much change, in dollars, should Mr. Morgano receive?

Answer $ 5.67

Score Credit 1 (out of 1 credit)

A correct answer is provided.

GUIDE PAPER 3

40

Mr. Morgano goes to the grocery store. The prices of different items are shown in the table below.

GROCERY ITEM PRICES

Item	Price
One pound of grapes	$1.59
One pound of turkey	$8.24
One loaf of bread	$1.33
One gallon of chocolate milk	$2.78

Mr. Morgano buys 3 pounds of grapes, $\frac{1}{2}$ pound of turkey, 2 loaves of bread, and 1 gallon of chocolate milk. He pays with a $20.00 bill. How much change, in dollars, should Mr. Morgano receive?

Answer $ 5.70

Score Credit 0 (out of 1 credit)

An incorrect answer is provided.

41

Simplify the expression shown below completely.

$$-\frac{3}{4}(4x - 8) + (x - 2)$$

Answer _____

EXEMPLARY RESPONSE

41

Simplify the expression shown below completely.

$$-\frac{3}{4}(4x - 8) + (x - 2)$$

Answer $-2x + 4$
OR equivalent

GUIDE PAPER 1

41

Simplify the expression shown below completely.

$$-\frac{3}{4}(4x-8)+(x-2)$$

Answer -2x+4

Score Credit 1 (out of 1 credit)

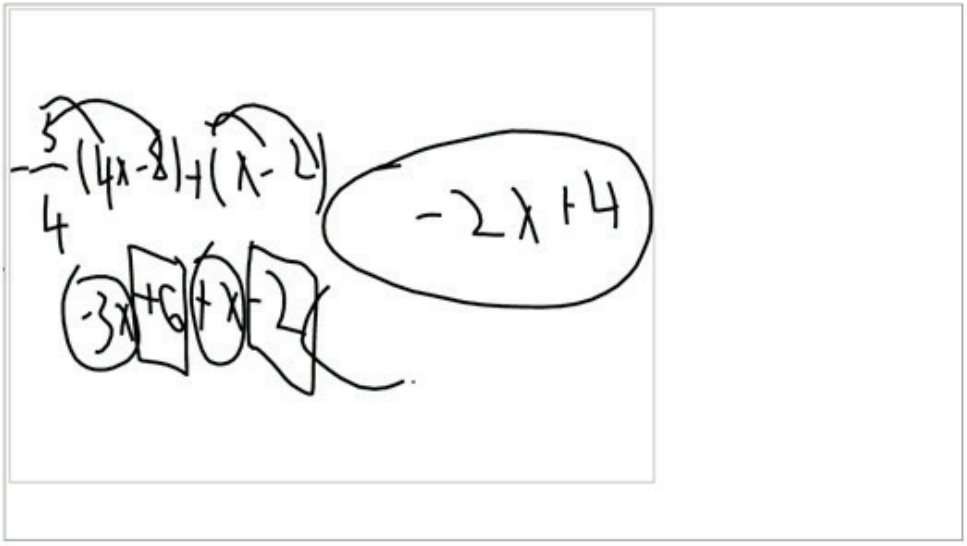
A correct answer is provided.

GUIDE PAPER 2

41

Simplify the expression shown below completely.

$$-\frac{3}{4}(4x-8)+(x-2)$$



Answer

Score Credit 1 (out of 1 credit)

A correct answer is provided.

GUIDE PAPER 3

41

Simplify the expression shown below completely.

$$-\frac{3}{4}(4x-8)+(x-2)$$

Answer 2x+4

Score Credit 0 (out of 1 credit)

An incorrect answer is provided.

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

Answer $_____

EXEMPLARY RESPONSE

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

$$12.50 + 2(1.25) = 15.00$$
$$10.25 + 2(1.25) = 12.75$$
$$(0.80)(15 + 12.75) = (0.80)(27.75) = 22.20$$

Answer $ 22.20

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

medium pizza = 10.25
large pizza = 12.50
toppings = 1.25 each
1.25 x 4 = 5
12.50 plus 10.25 = 22.75
22.75 + 5 = 27.75
27.75 x 20% = 5.55
27.75 - 5.55 = 22.20

Answer $ 22.20

Score Credit 2 (out of 2 credits)

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

- The total price of the two pizzas with toppings including the discount is correctly determined using a mathematically sound procedure.

This response is complete and correct.

GUIDE PAPER 2

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

1st.
1.25x2=2.5
12.5+2.5=15
15x0.2=3
15-3=12
$12
2nd.
1.25x2=2.5
10.25+2.5=12.75
12.75x0.2=2.55
12.75-2.55=10.20
$10.20
10.20+12=22.20

Answer $ 22.20

Score Credit 2 (out of 2 credits)

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

- The total price of the two pizzas with toppings including the discount is correctly determined using a mathematically sound procedure.

This response is complete and correct.

GUIDE PAPER 3

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

$$12.50 + 1.25 + 1.25 = 15.00$$

$$10.25 + 1.25 + 1.25 = 12.75$$

$$15 + 12.75 = 27.75$$

$$\frac{80}{100} = \frac{22.20}{27.75}$$

Answer $ 22.20

Score Credit 2 (out of 2 credits)

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

- The total price of the two pizzas with toppings including the discount is correctly determined using a mathematically sound procedure.

This response is complete and correct.

GUIDE PAPER 4

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

2 x 1.25= 2.50
12.50 + 2.50= $15

10.25 + 2.50 =$12.75

15+12.75= 27.75

Part = X
Whole= 27.75
Percent=100-20=80

X=(27.75)*(0.8)

X=$22.2

Tax

100+20=1.2

Part= X
Whole = 22.2
Percent = 1.2

X= (22.2)*(1.2)

X=26.64

Answer $ 26.64

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- An appropriate process is provided to determine the total price of the two pizzas with toppings including the discount.
- However, a twenty percent tax is inappropriately applied to the discounted price, resulting in an incorrect solution.

This response correctly addresses only some elements of the task.

GUIDE PAPER 5

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

$12.50 + 10.25 + 2(1.25) =$
$\$25.25$

$0.80 * 25.25 = \$20.20$

Answer $ 20.20

Score Credit 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 calculating the price of the two pizzas with toppings.
- However, the rest of the work to apply the twenty percent discount is carried out correctly.

This response correctly addresses only some elements of the task.

GUIDE PAPER 6

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

12.50+ 2.50 =15
10.25+2.50=12.75
=27.75

Answer $ 22.20

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- The price of the two pizzas with toppings is calculated correctly.
- However, it is unclear how the solution is obtained.

This response contains the correct solution, but the required work is incomplete.

GUIDE PAPER 7

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

$12.50 + 10.25 = 22.75 \quad 22.75 \times 1.25 = 28.4375$

Answer $ 28.4375

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

- An incorrect procedure is used to determine an incorrect solution.

Holistically, this response shows no overall understanding of the task.

43

A customer orders a large pizza with 2 toppings and a medium pizza with 2 toppings at a restaurant. The prices for the pizzas and toppings are listed below.

- Large pizza without toppings: $12.50
- Medium pizza without toppings: $10.25
- Toppings: $1.25 each

A 20% discount is applied to the customer's order. What is the total price of the order, excluding tax, after the discount?

Show your work.

12.50 + 10.25 +1.25= 24.00

Answer $ 24.00

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

- The twenty percent discount is not addressed, and the price of the two pizzas and one topping is inappropriately provided as an incorrect solution.

Holistically, this response shows no overall understanding of the task.

44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.

EXEMPLARY RESPONSE

44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.

The difference between the two travel rates is $^5/_6$ mile per hour.
I know this is true because I can divide the number of miles
by the fraction of time for both riders
and get the number of miles per hour for each and subtract the rates.

When I do this,
I get $^{10}/_3 \div {}^1/_2 = {}^{10}/_3 \times {}^2/_1 = {}^{20}/_3$ for Jim
and $^{15}/_8 \div {}^1/_4 = {}^{15}/_8 \times {}^4/_1 = {}^{60}/_8 = {}^{15}/_2$ for Devin.

Then, I find a common denominator to subtract them
and I get $^{45}/_6 - {}^{40}/_6 = {}^5/_6$
which is a $^5/_6$ mile per hour difference.

OR other valid response

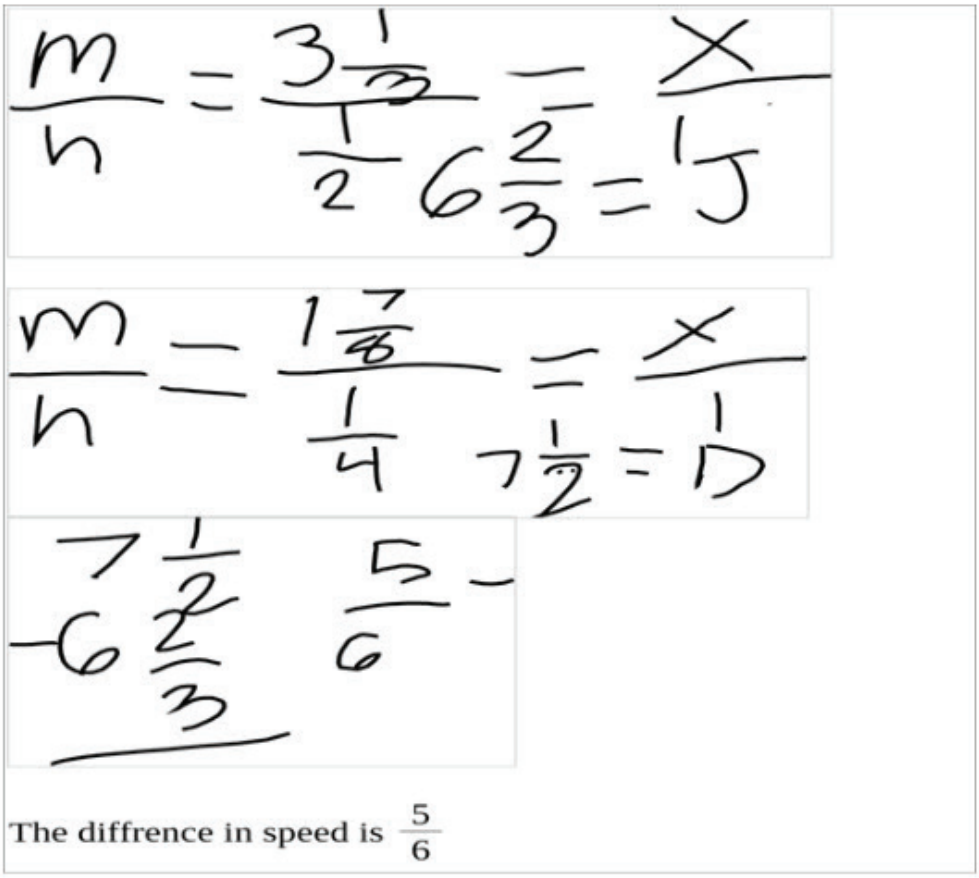
44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.



The diffrence in speed is $\frac{5}{6}$

Score Credit 2 (out of 2 credits)

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

- The difference between the average speeds is correctly determined and explained using mathematically sound procedures.

The response is complete and correct.

GUIDE PAPER 2

44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.

$3\frac{1}{3} \times 2 = 6\frac{2}{3}$ this is the miles per hour for Jim

$1\frac{7}{8} \times 4 = 7\frac{1}{2}$ this is the miles per hour for Devin

$7\frac{1}{2} - 6\frac{2}{3} = \frac{5}{6}$ this is the difference between their miles per hour.

I first found the miles per hour for both of them ($6\frac{2}{3}$ for Jim and $7\frac{1}{2}$ for Devin) I then found the difference between the two miles per hour.

Score Credit 2 (out of 2 credits)

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

- The difference between the average speeds is correctly determined and explained using mathematically sound procedures.

The response is complete and correct.

GUIDE PAPER 3

44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.

$\frac{5}{6}$ is the difference between the average speeds of Jim and Devin. Devin: $3\frac{1}{3} \div \frac{1}{2} = 6\frac{2}{3}$ mph. Jim: $1\frac{7}{8} \div \frac{1}{4} = 7\frac{1}{2}$ mph. $7\frac{1}{2}$ mph - $6\frac{2}{3} = \frac{5}{6}$.

Score Credit 2 (out of 2 credits)

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

- The difference between the average speeds is correctly determined and explained using mathematically sound procedures.
- Although the labeling for Devin and Jim's work is reversed, it does not detract from demonstrating a thorough understanding.

This response contains sufficient work to demonstrate a thorough understanding.

GUIDE PAPER 4

44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.

$$1\frac{7}{8} \times 2 = 3\frac{6}{8} - 3\frac{1}{3} = \frac{5}{12}$$

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- The difference in the distance traveled per half-hour is determined.
- However, it is inappropriately provided as an incorrect solution.

The response correctly addresses only some elements of the task.

GUIDE PAPER 5

44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.

jim: $3\frac{1}{3} \div \frac{1}{2} = \frac{20}{3}$

devin: $1\frac{7}{8} \div \frac{1}{4} = \frac{15}{2}$

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- The average speeds per hour for Jim and Devin are correctly determined.
- However, the difference between the speeds is not addressed.

The response correctly addresses only some elements of the task.

GUIDE PAPER 6

44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.

5/6 miles per hour
I determined my answer by finding their average speed in miles per hour, then subtracting the two to find the difference.

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- Although the correct difference between the average speeds is provided, the explanation is incomplete.

This response contains the correct solution but the required work is incomplete.

GUIDE PAPER 7

44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.

5/6

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

- The correct solution is provided with no explanation.

Per Scoring Policy #3 for 2- and 3-credit responses, this response receives no credit.

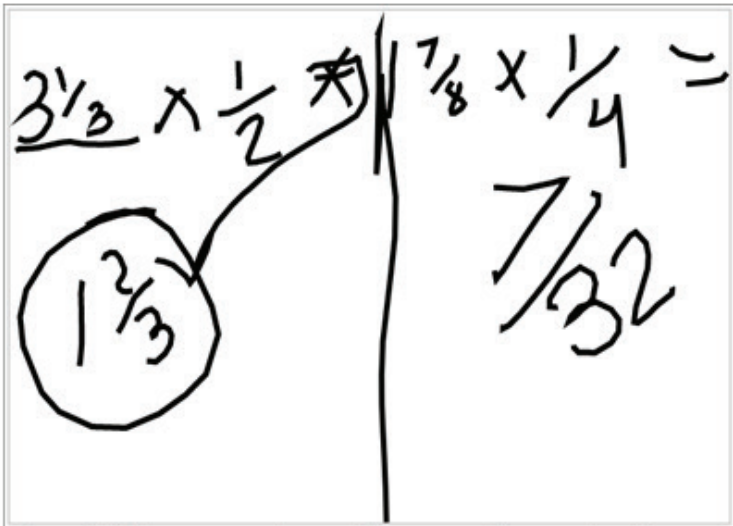
44

Jim and Devin ride their bicycles to meet at a friend's house.

- Jim rides $3\frac{1}{3}$ miles in $\frac{1}{2}$ hour.
- Devin rides $1\frac{7}{8}$ miles in $\frac{1}{4}$ hour.

What is the difference, in miles per hour, between the average speeds of Jim and Devin?

Explain how you determined your answer.



the difference in miles per hour is jim rides more

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

- An incorrect procedure is used, and an incorrect solution is provided.

The response is insufficient to show any understanding.

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

Answer _____ students

EXEMPLARY RESPONSE

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

$8 \div 32 = 0.25$
$0.25 \times 120 = 30$

OR other valid process

Answer 30 students

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

$$\frac{8}{32} = \frac{x}{120}$$

$32 \times 3.75 = 120$

8 x 3.75 = 30 students

Answer 30 students

Score Credit 2 (out of 2 credits)

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

- The predicted number of students preferring chocolate in the entire sixth grade is correctly determined using sound procedures.

This response is complete and correct.

GUIDE PAPER 2

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

12 + 8 + 5 + 3 + 4 = 32

Fraction of people whose favorite ice cream is chocolate: 8/32 ->simplified to 1/4.

1/4 of 120 students is 30.

Answer 30 students

Score Credit 2 (out of 2 credits)

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

- The predicted number of students preferring chocolate in the entire sixth grade is correctly determined using sound procedures.

This response is complete and correct.

GUIDE PAPER 3

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

$120 \div 32 = 3.75$

$3.75 \times 8 = 30$

Thirty kids

Answer 30 students

Score Credit 2 (out of 2 credits)

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

- The predicted number of students preferring chocolate in the entire sixth grade is correctly determined using sound procedures.

This response is complete and correct.

GUIDE PAPER 4

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

$120 \div 32 = 3.75 \times 4=15$
it would be 15 kids favorite ice cream

Answer 15 students

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- The value for the ratio of the entire class size to the survey group size is correctly determined.
- However, this value is not applied correctly, resulting in an incorrect solution.

This response correctly addresses only some elements of the task.

GUIDE PAPER 5

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

120 ÷ 32=4
4x8=32

Answer 32 students

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- An appropriate process is provided to determine the predicted number of students preferring chocolate in the entire sixth grade.
- However, a calculation error occurs, resulting in an incorrect solution.

This response contains an incorrect solution but applies a mathematically appropriate process.

GUIDE PAPER 6

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

12+8+5+3+4=32
120/32=3.75

Answer 3.75 students

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- The value for the ratio of the entire class size to the survey group size is correctly determined.
- However, this value is not further applied and is inappropriately provided as the solution.

This response correctly addresses only some elements of the task.

GUIDE PAPER 7

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

12+8+5+3+4= 32 $\quad 32 \div 5 = 6.4 \quad 6.6 \times 120 =$ 792

Answer 792 students

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

- An incorrect procedure is used and an incorrect solution is provided.

Holistically, this response shows no overall understanding of the task.

45

A group of sixth-grade students recorded their favorite flavors of ice cream. The results are shown in the table below.

FAVORITE FLAVORS OF ICE CREAM

Flavor of Ice Cream	Number of Students
Vanilla	12
Chocolate	8
Strawberry	5
Pistachio	3
Other	4

Based on the results, what would be the predicted number of students in the entire sixth grade whose favorite ice cream flavor is chocolate, if there are a total of 120 students in the sixth grade?

Show your work.

12+8+5+3+4=32-120=88

Answer 88 students

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

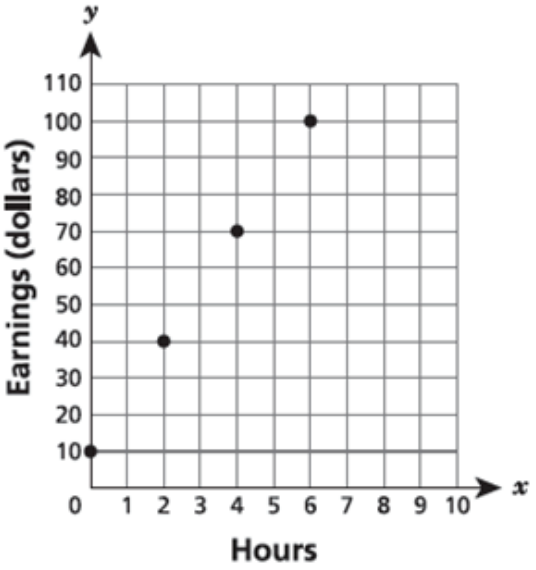
- An incorrect procedure is used and an incorrect solution is provided.

Holistically, this response shows no overall understanding of the task.

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

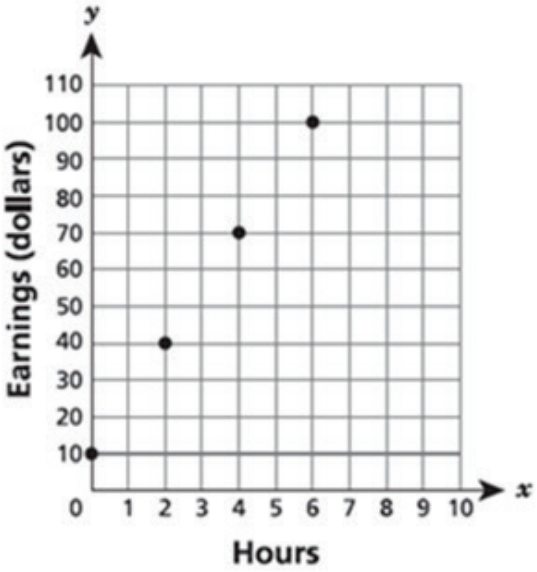
Explain your answer.

EXEMPLARY RESPONSE

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

Explain your answer.

Jenna's earnings show a proportional relationship
because the amount of earnings for each row
is always 18 times the corresponding number of hours worked.

$\frac{54}{3} = \frac{108}{6} = \frac{162}{9} = \frac{216}{12} = 18$

Eric's earnings are not proportional.

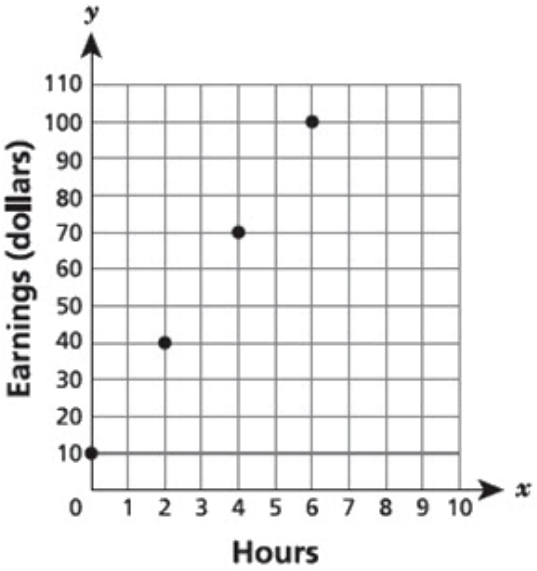
$\frac{40}{2} = 20$
$\frac{70}{4} = 17.5$
$\frac{100}{6} = 16\frac{2}{3}$

OR other valid response

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

Explain your answer.

Jenna's earnings are proportional to how many hours she worked. This is because the quotient of how many dollars she makes divided by how many hours she worked is always the same. For example, 54/3 is 18, 108/6 is 18, 162/9 is 18, and 216/12 is 18. Therefore, her earnings are proportional, and the rate of change is $18.00 per hour. Eric's earnings are not proportional because after 0 hours of working, he has not made $0.00. Instead, he has made $10.00. Therefore, Jenna's earnings are proportional, and Eric's are not.

Score Credit 2 (out of 2 credits)

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

- The correct person is identified, and a valid explanation is provided.

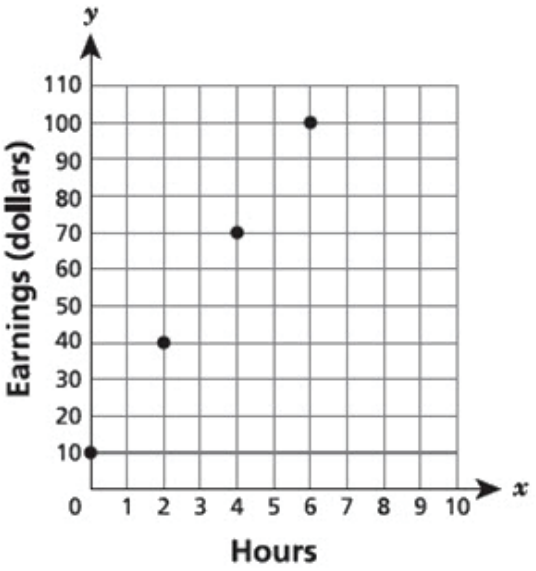
This response is complete and correct.

GUIDE PAPER 2

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

Explain your answer.

Jenna's earnings are proportional. The unit of proportionality is $18 an hour (52/3=18). Multiplying any unit of hours on her chart with $18 you will get her written (y) vaulue each time.

Score Credit 2 (out of 2 credits)

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

- The correct person is identified, and a valid explanation is provided.
- Although an incorrect equation is written (52/3=18), the remaining explanation demonstrates understanding that the constant of proportionality is the same for all rows in the table.

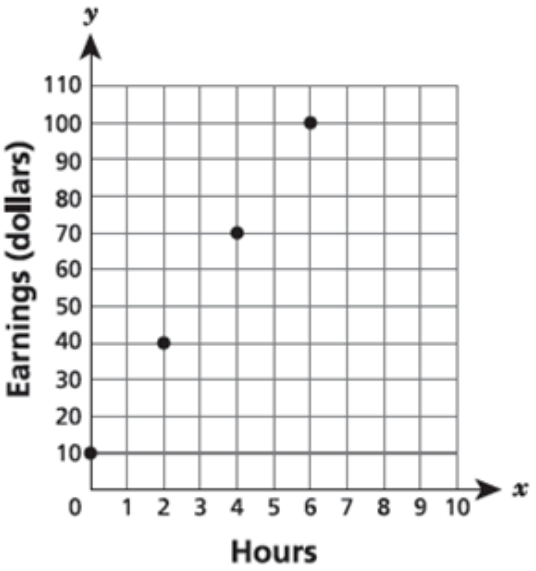
This response is sufficient to demonstrate a thorough understanding.

GUIDE PAPER 3

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

Explain your answer.

Jenna's Earnings are proportional to the number of hours worked but Eric's earnings are not. On a graph it is proportional if there is a straight line passing through the origin, even though for Eric's earnings it is a straight line it didnt pass throught the origin so it cannot be proportional. However Jenna's Earnings are proportional because there is a unit rate of 18 dollars per hour worked.

Score Credit 2 (out of 2 credits)

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

- The correct person is identified, and a valid explanation is provided.

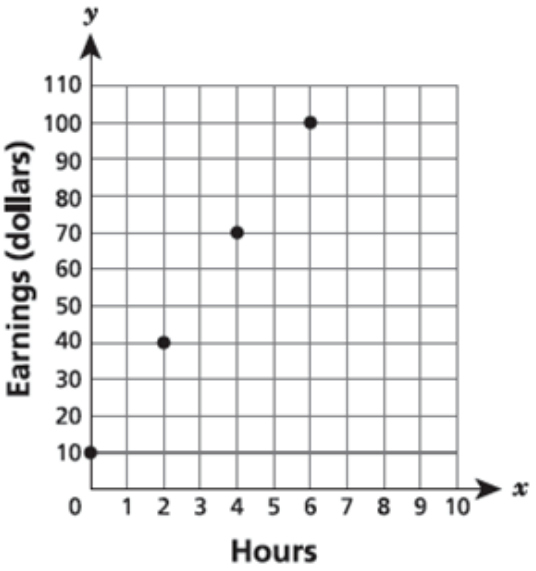
This response is sufficient to demonstrate a thorough understanding.

GUIDE PAPER 4

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

Explain your answer.

Jenna's earnings are proportional because she earns 18 dollars per hour. Erics earnings are not proportional because he earns a different amount of money per x hours.

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- The correct person is identified.
- However, the explanation provided is incomplete; it is unclear how the unit rate was obtained.

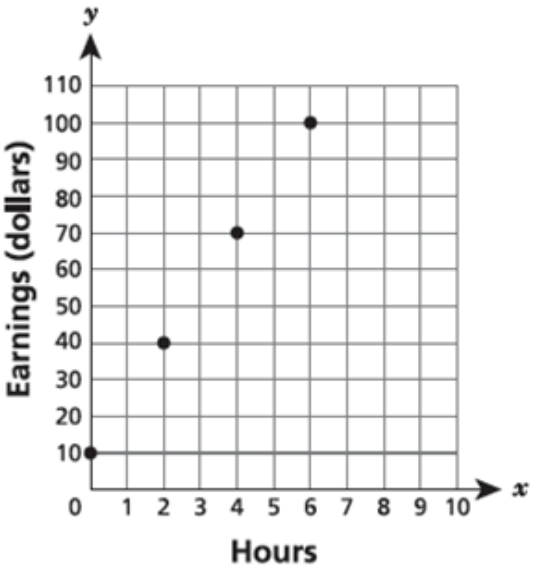
This response correctly addresses only some elements of the task.

GUIDE PAPER 5

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

Explain your answer.

if you divide the earnings by the hours of jennas work for each ratio you can see that it is proportional, but with eric it starts with him earning 10 for 0 hours and then jumping to 40 for 2 hours, do then keep going without any pattern. jenny's earnings are proportional to the hours worked

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- The correct person is identified.
- However, the explanation provided is incomplete.

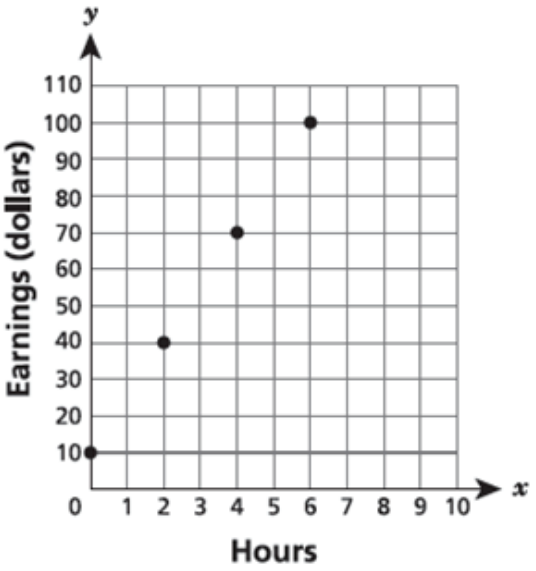
This response correctly addresses only some elements of the task.

GUIDE PAPER 6

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

Explain your answer.

18 dollors is the amount proportional to the number of hour worked

54 ÷ 3 = 18

108 ÷ 6 = 18

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- Although the constant of proportionality is correctly calculated for 3 and 6 hours, the calculations for 9 and 12 hours are not addressed.
- No correct identification is made.

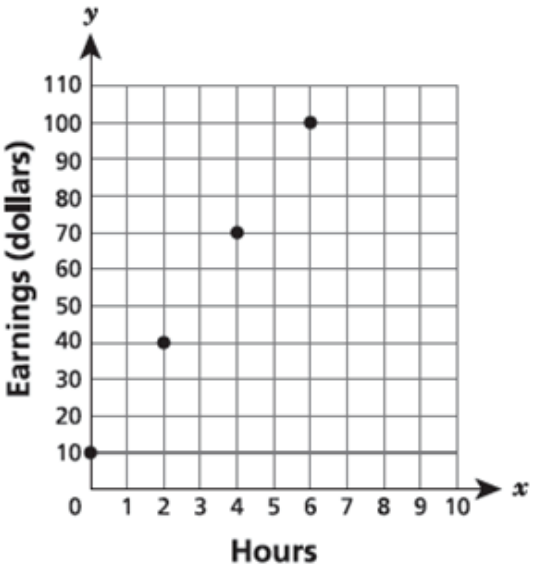
This response correctly addresses only some elements of the task.

GUIDE PAPER 7

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

Explain your answer.

Jenna becuase 100 ÷ 6=16.67 and 108 ÷ 6=18.

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

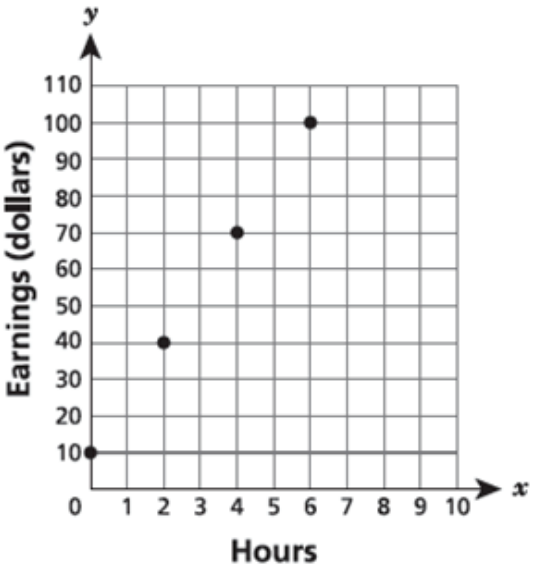
- Although some elements are correct, the explanation is insufficient to show proportionality.

Holistically, the response is insufficient to show any understanding.

46

Eric's and Jenna's earnings at their jobs are shown in the graph and the table below.

ERIC'S EARNINGS



JENNA'S EARNINGS

Hours, x	Earnings (dollars), y
3	54
6	108
9	162
12	216

For which person is the amount of earnings proportional to the number of hours worked?

Explain your answer.

the table is proportional.

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

- An identification of "the table" is made; however, no explanation is provided.

Per Scoring Policy #3 for 2- and 3-credit responses, this response receives no credit.

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

Answer _____

EXEMPLARY RESPONSE

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

$^{1}/_{2}\,(^{-4}/_{10}) \div {}^{1}/_{3}$
$^{-1}/_{5} \div {}^{1}/_{3}$
$^{-1}/_{5} \times {}^{3}/_{1}$
$^{-3}/_{5}$

Answer $^{-3}/_{5}$ or $^{-6}/_{10}$
OR other valid response

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

The first thing I did was convert (-0.4) into a fraction so that I could work with all fractions.

-0.4 as a fraction is $-\frac{2}{5}$.

Then I solved:

$(\frac{1}{2}) \times (-\frac{2}{5})$ is $-\frac{2}{10}$ which can be simplified into $-\frac{1}{5}$.

Lastly, I did $-\frac{1}{5} \div \frac{1}{3}$ which is $-\frac{3}{5}$

Answer $-\frac{3}{5}$

Score Credit 2 (out of 2 credits)

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

- The value of the expression is correctly determined using a mathematically sound procedure.

This response is complete and correct.

GUIDE PAPER 2

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

$\left(\frac{1}{2}\right)$ x -0.4=-0.2

$-0.2 \div \frac{1}{3} = -0.6$

Answer -0.6

Score Credit 2 (out of 2 credits)

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

- The value of the expression is correctly determined using a mathematically sound procedure.

This response is complete and correct.

GUIDE PAPER 3

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

.5 times -0.4 = -0.2 divided by $\frac{1}{3}$ = -0.6

Answer -0.6

Score Credit 2 (out of 2 credits)

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

- The value of the expression is correctly determined using a mathematically sound procedure.
- The run-on equation does not detract from the demonstration of a thorough understanding.

This response contains sufficient work to demonstrate a thorough understanding.

GUIDE PAPER 4

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

0.5x-0.4 ÷ .33

× .5 −.4 ÷ .33

−.2

-.2 ÷ .33=-0.60606060606

Answer -0.60606060606

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- A mathematically sound procedure is used to evaluate the expression.
- However, the conversion of the fraction 1/3 is incorrectly truncated to .33, resulting in an incorrect solution.

This response contains an incorrect solution but applies a mathematically appropriate process.

GUIDE PAPER 5

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

$(\frac{1}{2})(-0.4)=-0.2$

$-0.2 \div (\frac{1}{3})=-1.2$

Answer -1.2

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- A mathematically sound procedure is used to evaluate the expression.
- However, a calculation error occurs in the division step, resulting in an incorrect solution.

This response contains an incorrect solution but applies a mathematically appropriate process.

GUIDE PAPER 6

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

$-0.4 \div \frac{1}{3} = -1.2$ $\qquad$ $\frac{1}{2} - 1.2 = -0.7$

Answer -0.7

Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task.

- The division step is calculated correctly.
- However, an operation error occurs in the second step (subtraction instead of multiplication), resulting in an incorrect solution.

This response correctly addresses only some elements of the task.

GUIDE PAPER 7

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

$\frac{1}{2}$ x -0.4 / $\frac{1}{3}$

Answer $\frac{-1}{15}$

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

- The value of the expression is incorrectly determined, and no work is shown.

This response is incorrect, and, holistically, is insufficient to show any understanding.

47

An expression is shown below.

$$\left(\frac{1}{2}\right)(-0.4) \div \left(\frac{1}{3}\right)$$

Evaluate the expression.

Show your work.

$\frac{1}{2}$ x -.4 ÷ $\frac{1}{3}$ =-.6=-$\frac{3}{5}$

Answer -.6 = -$\frac{3}{5}$

Score Credit 0 (out of 2 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

- The correct solution is provided with no work.

Per Scoring Policy #3 for 2- and 3-credit responses, this response receives no credit.

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

Answer _____ games

EXEMPLARY RESPONSE

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

Let x equal the number of games.

$3.75 + 5.25x = 30$

$5.25x = 30 - 3.75$

$5.25x = 26.25$

$x = 26.25 \div 5.25$

$x = 5$

5 games

OR other valid process

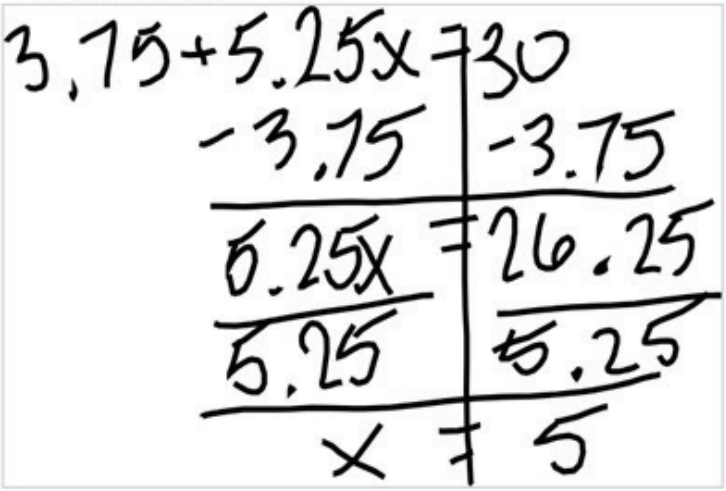
Answer 5 games

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

Let 3.75= fee to rent shoes
Let 5.25= cost of each game
Let $30= the total
Let x= the number of games he played
3.75+5.25x=30



Answer 5 games

Score Credit 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, and it is correctly solved to determine the number of games.

This response is complete and correct.

GUIDE PAPER 2

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

$3.75+5.25x=30$

$$\begin{array}{r} 30 \\ -\ 3.75 \\ \hline 26.25 \end{array} \qquad \frac{26.25}{5.25} = 5$$

Answer 5 games

Score Credit 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, and it is correctly solved to determine the number of games.

This response is complete and correct.

GUIDE PAPER 3

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

$3.75+5.25x=30$

$-3.75 \quad -3.75$

$5.25x=26.25 \div 5.25=5$

Answer 5 games

Score Credit 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, and it is correctly solved to determine the number of games.
- The run-on equation does not detract from the demonstration of a thorough understanding.

This response contains sufficient work to demonstrate a thorough understanding.

GUIDE PAPER 4

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

5.25x +3.75 = 30.00
30.00-3.75
26.75 ÷ 5.25
=5.10

Answer 5.10 games

Score Credit 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task.

- A correct equation is written to determine the number of games.
- However, a calculation error occurs when subtracting the price of the shoes from the total spent, resulting in an incorrect solution.

This response contains an incorrect solution but applies sound procedures.

GUIDE PAPER 5

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

X= Number of games played

3.75+5.25x=30

-3.75 -3.75

$\frac{3.75x}{3.75}$ $\frac{26.25}{3.75}$

=7

Answer Seven games games

Score Credit 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task.

- A correct equation is written to determine the number of games.
- However, an error occurs (3.75x instead of 5.25x), resulting in an incorrect solution.

This response contains an incorrect solution but applies sound procedures.

GUIDE PAPER 6

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

x5.25-3.75=30 x5.25=26.25 ÷ 5.25=5 games5

Answer 5 games

Score Credit 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task.

- A mathematically sound procedure is used to determine the correct number of games.
- However, an incorrect equation is written (using – instead of +).

This response appropriately addresses most, but not all, aspects of the task.

GUIDE PAPER 7

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

$5.25x + 3.75 = 30$

Answer _____ games

Score Credit 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task.

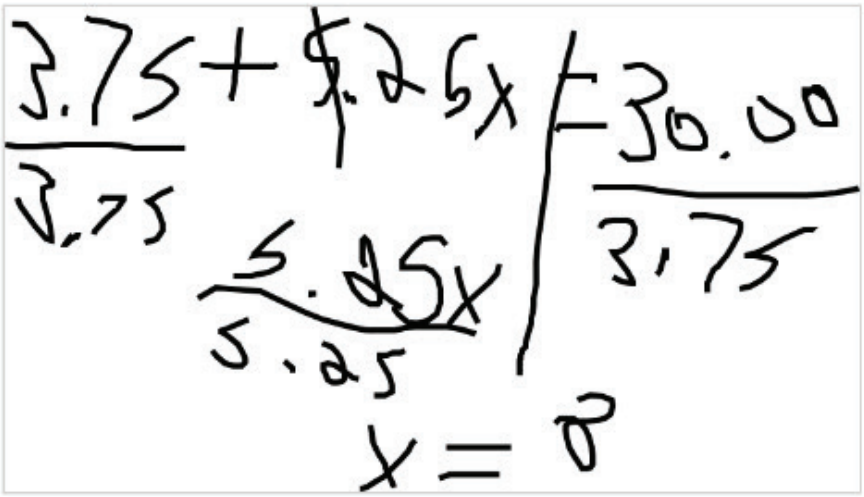
- A correct equation is written.
- However, no solution is determined.

This response addresses some elements of the task correctly, but the required work is incomplete.

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.



Answer X=8 games

Score Credit 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task.

- A correct equation is written to determine the number of games.
- However, an incorrect procedure is used, and an incorrect solution is provided.

This response exhibits multiple flaws related to misunderstanding important aspects of the task.

GUIDE PAPER 9

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

30-3.75=27.25
27.25 ÷ 5.25=5

Answer 27.25=5x games

Score Credit 1 (out of 3 credits)

This response demonstrates a limited understanding of the mathematical concepts and procedures in the task.

- A correct process is used to determine the number of games.
- However, calculation errors occur, and an incorrect equation is inappropriately provided as the solution.

This response exhibits multiple flaws related to misunderstanding important aspects of the task.

GUIDE PAPER 10

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

$3.75 \times 5.25 = 19.68$

$30.00 - 19.68 = 10.32$

Answer 10.32 games

Score Credit 0 (out of 3 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts and procedures in the task.

- An incorrect procedure is used to determine an incorrect solution.

This response is incorrect, and, holistically, is insufficient to show any understanding.

48

Nicholas went to a bowling alley. The bowling alley charged Nicholas a one-time fee of $3.75 to rent shoes and $5.25 for each game he played. Write and solve an equation to determine the number of games, x, that Nicholas played if he spent a total of $30.00 on shoes and games.

Show your work.

$3.75 \times 8 = 30.00$

$5.25 \times 5 = 26.25$

Answer 8 shoes and 5 games games

Score Credit 0 (out of 3 credits)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

- Although the correct number of games is provided as a solution, it is unclear how it is obtained, and an incorrect number of shoes is also provided as part of the solution.

Although some elements are correct, holistically they are not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task.

Grade 7
Mathematics

Scoring Leader Materials
2026 Training Set