

Name: \_\_\_\_\_



# New York State *Testing Program*

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## Mathematics Test Session 1

Grade **5**

Spring 2024

**RELEASED QUESTIONS**

# Session 1



## TIPS FOR TAKING THE TEST

Here are some ideas to help you do your best:

- Read each question carefully. Take your time.
- You have a ruler, a protractor, and a reference sheet that you can use on the test if they help you answer the question.

# Grade 5 Mathematics Reference Sheet

## CONVERSIONS

1 yard = 3 feet  
1 mile = 5,280 feet  
1 mile = 1,760 yards

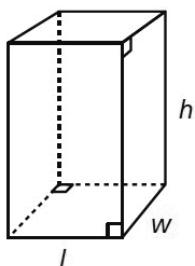
1 cup = 8 fluid ounces  
1 pint = 2 cups  
1 quart = 2 pints  
1 gallon = 4 quarts  
1 liter = 1,000 milliliters

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

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## FORMULAS AND FIGURES

### Right Rectangular Prism



$$V = l \times w \times h$$
$$V = B \times h$$

**1**

Carlos walks 3.65 kilometers on Saturday and 1.46 kilometers on Sunday. How many total kilometers does Carlos walk on Saturday and Sunday?

- A 2.19
- B 2.29
- C 5.01
- D 5.11

**2**

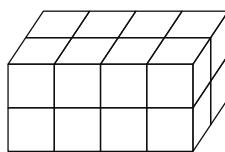
Which expression is equivalent to  $5 \times \frac{3}{4}$ ?

- A  $\frac{5}{1} + \frac{3}{4}$
- B  $\frac{5}{1} - \frac{3}{4}$
- C  $\frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4} + \frac{3}{4}$
- D  $\frac{3}{4} \times \frac{3}{4} \times \frac{3}{4} \times \frac{3}{4} \times \frac{3}{4}$

**GO ON**

**3**

A diagram of a right rectangular prism made of unit cubes is shown below.



KEY	
	= 1 cubic unit

What measurement for the right rectangular prism is equal to the total number of cubes?

- A** area
- B** height
- C** perimeter
- D** volume

**4**

What is 34.275 rounded to the nearest hundredth?

- A** 34.0
- B** 34.3
- C** 34.27
- D** 34.28

**GO ON**

**7**

A group of 4 gold miners found 10 ounces of gold. The miners shared the gold equally. How much gold, in ounces, did each miner receive?

**A**  $\frac{1}{4}$

**B**  $\frac{4}{10}$

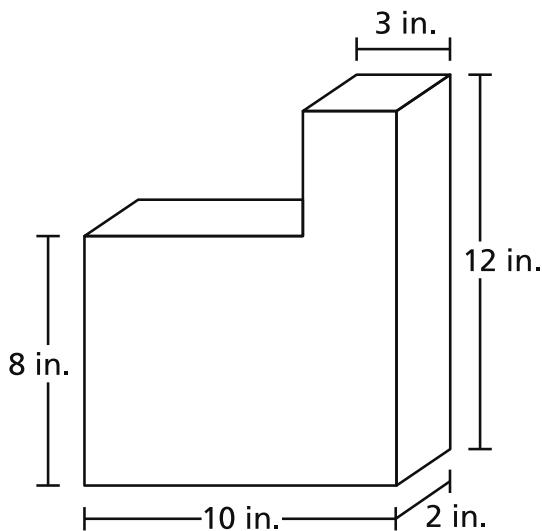
**C**  $2\frac{2}{10}$

**D**  $2\frac{1}{2}$

**GO ON**

**9**

A diagram of a 3-dimensional figure is shown below.



What is the volume, in cubic inches, of the figure?

- A** 35
- B** 72
- C** 184
- D** 240

**10**

Steven has 3 cups of raisins. He shares all the raisins equally among himself and his friends.

If each person gets  $\frac{1}{4}$  cup of raisins, how many people, in total, get raisins?

- A** 1
- B** 4
- C** 7
- D** 12

**GO ON**

**12**

Saul has \$6.00 in quarters. He uses all of the quarters to play video games. If each game requires 3 quarters, what is the total number of video games that Saul plays?

- A** 2
- B** 8
- C** 12
- D** 18

**GO ON**

**15**

A company has an annual employee picnic. The company rents buses to transport the employees to the picnic area. There are 1,320 employees. Each bus carries a total of 54 employees. What is the **minimum** number of buses the company needs to transport all of the employees to the picnic area?

**A** 24

**B** 25

**C** 26

**D** 27

**16**

Which comparison is true?

**A**  $0.04 > 0.14$

**B**  $0.83 > 0.92$

**C**  $0.27 < 0.36$

**D**  $0.52 < 0.49$

**GO ON**

**19**

Which statement about the relationship between parallelograms and rectangles is true?

- A** All parallelograms are rectangles, but not all rectangles are parallelograms.
- B** All rectangles are parallelograms, but not all parallelograms are rectangles.
- C** All rectangles are parallelograms, and all parallelograms are rectangles.
- D** Not all parallelograms are rectangles, and not all rectangles are parallelograms.

**GO ON**

**27** What is the value of the expression  $\frac{1}{7} \div 5$ ?

A  $\frac{1}{35}$

B  $\frac{1}{12}$

C  $\frac{5}{7}$

D  $\frac{6}{7}$

**28** Marcel has  $2\frac{1}{3}$  cups of milk. He uses  $\frac{2}{3}$  cup for his cereal and  $1\frac{1}{4}$  cups for a pancake recipe.

How much milk, in cups, does Marcel have remaining?

A  $\frac{5}{12}$

B  $\frac{7}{12}$

C  $1\frac{1}{12}$

D  $1\frac{11}{12}$

**GO ON**

- 30** What is the area, in square units, of a rectangle with side lengths  $3\frac{3}{4}$  units and  $9\frac{1}{2}$  units?

A  $13\frac{1}{4}$

B  $27\frac{3}{8}$

C  $35\frac{5}{8}$

D  $47\frac{1}{2}$

**STOP**

# Session 2



## TIPS FOR TAKING THE TEST

Here are some ideas to help you do your best:

- Read each question carefully. Take your time.
- You have a ruler, a protractor, and a reference sheet that you can use on the test if they help you answer the question.
- Be sure to show your work when asked.
- Be sure to explain your answer when asked.

**31**

Rida is walking on a trail that is 2.5 kilometers long. She has walked 0.72 kilometer of the trail so far. How many more kilometers does Rida still need to walk to complete the trail?

- A 0.53
- B 0.97
- C 1.78
- D 3.22

**32**

What is the value of the expression shown below?

$$\frac{1}{2} + \frac{2}{3} - \frac{1}{4}$$

- A  $\frac{2}{1}$
- B  $\frac{4}{9}$
- C  $\frac{11}{12}$
- D  $\frac{17}{12}$

**33**

Lisa drew a four-sided shape that had exactly one pair of parallel lines and two right angles. Which list correctly classifies the shape Lisa drew?

- A square, rhombus, quadrilateral
- B trapezoid, quadrilateral, polygon
- C rectangle, parallelogram, polygon
- D rhombus, parallelogram, quadrilateral

**GO ON**

- 34** Elsie has two equal-sized bags of rice. One bag is  $\frac{1}{3}$  full, and the other bag is  $\frac{1}{5}$  full. She combines the rice into one of the bags. What fraction of a full bag of rice does Elsie now have after combining the rice?

- A  $\frac{1}{2}$
- B  $\frac{1}{4}$
- C  $\frac{2}{15}$
- D  $\frac{8}{15}$

- 35** The distance between two houses on a street is 450 meters. What is the distance measured in kilometers?

- A 45
- B 4.5
- C 0.45
- D 0.045

**GO ON**

**36**

This question is worth 1 credit.

Calvin has a box in the shape of a right rectangular prism. He packs it with unit cubes to determine its volume. The dimensions of the box are listed below.

- length: 16 inches
- width: 7 inches
- height: 8 inches

Each unit cube is 1 cubic inch. How many unit cubes will Calvin need to completely fill the box?

**Answer** \_\_\_\_\_ unit cubes

**GO ON**

**37**

**This question is worth 1 credit.**

A family takes a cake to a party. When the family is ready to leave the party,  $\frac{3}{4}$  of the cake is left. The family leaves  $\frac{1}{2}$  of the leftover cake at the party and takes the remaining cake home. What fraction of all of the cake does the family take home?

**Answer** \_\_\_\_\_ of the cake

**GO ON**

**38**

**This question is worth 1 credit.**

A teacher has 55 sheets of stickers with a total of 1,320 stickers. Each sheet has the same number of stickers. How many stickers are on each sheet?

**Answer** \_\_\_\_\_ stickers

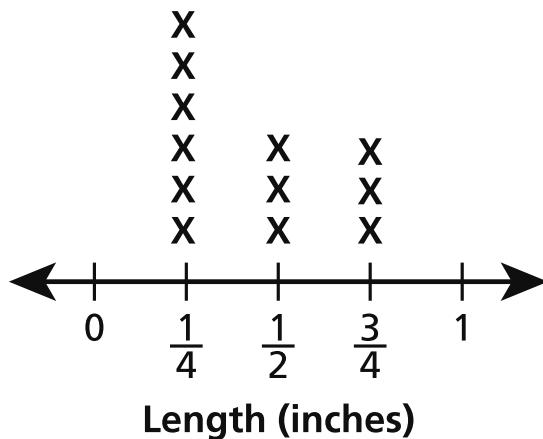
**GO ON**

**39**

This question is worth 2 credits.

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

### ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end?

*Show your work.*

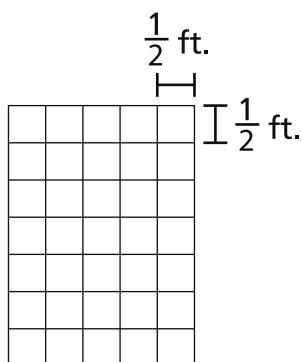
Answer \_\_\_\_\_ inches

**GO ON**

**40**

This question is worth 2 credits.

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top?

*Show your work.*

**Answer** \_\_\_\_\_ square feet

**GO ON**

**41**

**This question is worth 2 credits.**

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

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**GO ON**

**42**

**This question is worth 2 credits.**

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form?  
Be sure to include the correct number in standard form in your answer.

***Explain your answer.***

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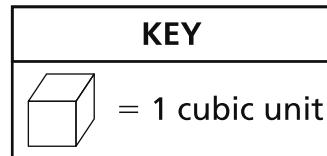
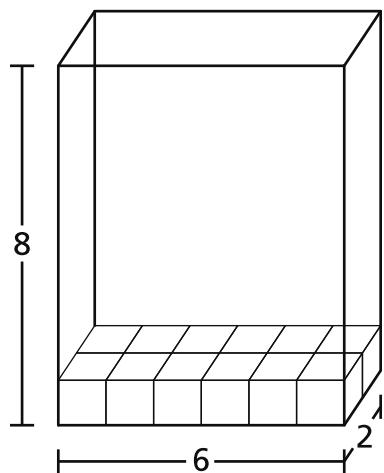
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**GO ON**

**43**

This question is worth 2 credits.

The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism?

*Explain how you determined your answer.*

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**GO ON**

**44**

**This question is worth 3 credits.**

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

**Show your work.**

**Answer** \$ \_\_\_\_\_

**STOP**

**THE STATE EDUCATION DEPARTMENT**  
 THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234  
 2024 Mathematics Tests Map to the Standards  
**Grade 5**

Question	Type	Key	Points	Standard	Domain	Secondary Standard(s)	Multiple Choice Questions	Constructed Response Questions	
							Percentage of Students Who Answered Correctly (P-Value)	Average Points Earned	P-Value (Average Points Earned ÷ Total Possible Points)
<b>Session 1</b>									
1	Multiple Choice	D	1	NGLS.Math.Content.NY-5.NBT.7	Number and Operations in Base Ten		0.89		
2	Multiple Choice	C	1	NGLS.Math.Content.NY-5.NF.4a	Number and Operations - Fractions		0.75		
3	Multiple Choice	D	1	NGLS.Math.Content.NY-5.MD.3a	Measurement and Data		0.70		
4	Multiple Choice	D	1	NGLS.Math.Content.NY-5.NBT.4	Number and Operations in Base Ten		0.62		
7	Multiple Choice	D	1	NGLS.Math.Content.NY-5.NF.3	Number and Operations - Fractions		0.43		
9	Multiple Choice	C	1	NGLS.Math.Content.NY-5.MD.5c	Measurement and Data		0.51		
10	Multiple Choice	D	1	NGLS.Math.Content.NY-5.NF.7c	Number and Operations - Fractions		0.71		
12	Multiple Choice	B	1	NGLS.Math.Content.NY-4.MD.2a	Measurement and Data		0.54		
15	Multiple Choice	B	1	NGLS.Math.Content.NY-5.NBT.6	Number and Operations in Base Ten		0.42		
16	Multiple Choice	C	1	NGLS.Math.Content.NY-5.NBT.3b	Number and Operations in Base Ten		0.83		
19	Multiple Choice	B	1	NGLS.Math.Content.NY-5.G.3	Geometry		0.48		
27	Multiple Choice	A	1	NGLS.Math.Content.NY-5.NF.7a	Number and Operations - Fractions		0.72		
28	Multiple Choice	A	1	NGLS.Math.Content.NY-5.NF.2	Number and Operations - Fractions		0.46		
30	Multiple Choice	C	1	NGLS.Math.Content.NY-5.NF.4b	Number and Operations - Fractions		0.27		
<b>Session 2</b>									
31	Multiple Choice	C	1	NGLS.Math.Content.NY-5.NBT.7	Number and Operations in Base Ten		0.73		
32	Multiple Choice	C	1	NGLS.Math.Content.NY-5.NF.1	Number and Operations - Fractions		0.61		
33	Multiple Choice	B	1	NGLS.Math.Content.NY-5.G.4	Geometry		0.38		
34	Multiple Choice	D	1	NGLS.Math.Content.NY-5.NF.2	Number and Operations - Fractions		0.71		
35	Multiple Choice	C	1	NGLS.Math.Content.NY-5.MD.1	Measurement and Data		0.49		
36	Constructed Response	n/a	1	NGLS.Math.Content.NY-5.MD.5a	Measurement and Data			0.57	0.57
37	Constructed Response	n/a	1	NGLS.Math.Content.NY-5.NF.6	Number and Operations - Fractions			0.12	0.12
38	Constructed Response	n/a	1	NGLS.Math.Content.NY-5.NBT.6	Number and Operations in Base Ten			0.62	0.62
39	Constructed Response	n/a	2	NGLS.Math.Content.NY-5.MD.2	Measurement and Data			0.97	0.49
40	Constructed Response	n/a	2	NGLS.Math.Content.NY-5.NF.4b	Number and Operations - Fractions			0.54	0.27
41	Constructed Response	n/a	2	NGLS.Math.Content.NY-5.NF.5a	Number and Operations - Fractions			0.43	0.22
42	Constructed Response	n/a	2	NGLS.Math.Content.NY-5.NBT.3a	Number and Operations in Base Ten			0.48	0.24
43	Constructed Response	n/a	2	NGLS.Math.Content.NY-5.MD.5a	Measurement and Data			1.04	0.52
44	Constructed Response	n/a	3	NGLS.Math.Content.NY-5.NBT.7	Number and Operations in Base Ten			0.55	0.18

\*This item map is intended to identify the primary analytic skills necessary to successfully answer each question. However, some questions measure proficiencies described in multiple standards, including a balanced combination of procedural and conceptual understanding.

### **1-Credit Constructed-Response Rubric**

<b>1 Credit</b>	A 1-credit response is a <b>correct answer</b> to the question which indicates a thorough understanding of mathematical concepts and/or procedures.
<b>0 Credits*</b>	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**

<b>2 Credits</b>	<p>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.</p> <p>This response</p> <ul style="list-style-type: none"><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>
<b>1 Credit</b>	<p>A 1-credit response demonstrates only a partial understanding of the mathematical concepts and/or procedures in the task.</p> <p>This response</p> <ul style="list-style-type: none"><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>
<b>0 Credits*</b>	<p>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.</p>

\* 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

<b>3 Credits</b>	<p>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.</p> <p>This response</p> <ul style="list-style-type: none"> <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(s) and the demonstration of a thorough understanding</li> </ul>
<b>2 Credits</b>	<p>A 2-credit response demonstrates a partial understanding of the mathematical concepts and/or procedures in the task.</p> <p>This response</p> <ul style="list-style-type: none"> <li>• appropriately addresses most but not all aspects of the task using mathematically sound procedures</li> <li>• may contain an incorrect solution but provides sound procedures, reasoning, and/or explanations</li> <li>• may reflect some minor misunderstanding of the underlying mathematical concepts and/or procedures</li> </ul>
<b>1 Credit</b>	<p>A 1-credit response demonstrates only a limited understanding of the mathematical concepts and/or procedures in the task.</p> <p>This response</p> <ul style="list-style-type: none"> <li>• may address some elements of the task correctly but reaches an inadequate solution and/or provides reasoning that is faulty or incomplete</li> <li>• exhibits multiple flaws related to misunderstanding of important aspects of the task, misuse of mathematical procedures, or faulty mathematical reasoning</li> <li>• reflects a lack of essential understanding of the underlying mathematical concepts</li> <li>• may contain the correct solution(s) but required work is limited</li> </ul>
<b>0 Credits*</b>	<p>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.</p>

\* 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 (2024)**

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 (2024)**

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.

Calvin has a box in the shape of a right rectangular prism. He packs it with unit cubes to determine its volume. The dimensions of the box are listed below.

- length: 16 inches
- width: 7 inches
- height: 8 inches

Each unit cube is 1 cubic inch. How many unit cubes will Calvin need to completely fill the box?

Answer \_\_\_\_\_ unit cubes

## EXEMPLARY RESPONSE

36

Calvin has a box in the shape of a right rectangular prism. He packs it with unit cubes to determine its volume. The dimensions of the box are listed below.

- length: 16 inches
- width: 7 inches
- height: 8 inches

Each unit cube is 1 cubic inch. How many unit cubes will Calvin need to completely fill the box?

Answer 896 unit cubes

# GUIDE PAPER 1

36

Calvin has a box in the shape of a right rectangular prism. He packs it with unit cubes to determine its volume. The dimensions of the box are listed below.

- length: 16 inches
- width: 7 inches
- height: 8 inches

Each unit cube is 1 cubic inch. How many unit cubes will Calvin need to completely fill the box?

896

Answer

unit cubes

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

A correct answer is provided.

## GUIDE PAPER 2

36

Calvin has a box in the shape of a right rectangular prism. He packs it with unit cubes to determine its volume. The dimensions of the box are listed below.

- length: 16 inches
- width: 7 inches
- height: 8 inches

Each unit cube is 1 cubic inch. How many unit cubes will Calvin need to completely fill the box? [1]

$$V = L \times W \times H$$

$$\begin{array}{l} L = 16 \text{ inches} \\ W = 7 \text{ inches} \\ H = 8 \text{ inches} \end{array}$$
$$\begin{array}{r} * 16 \\ \times 7 \\ \hline 112 \end{array}$$
$$\begin{array}{r} 112 \\ \times 8 \\ \hline 896 \text{ cubic inches} \end{array}$$

Answer 896 unit cubes

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

A correct answer is provided.

# GUIDE PAPER 3

36

Calvin has a box in the shape of a right rectangular prism. He packs it with unit cubes to determine its volume. The dimensions of the box are listed below.

- length: 16 inches
- width: 7 inches
- height: 8 inches

Each unit cube is 1 cubic inch. How many unit cubes will Calvin need to completely fill the box? [1]

$$\begin{array}{r} 4 \\ 16 \\ \times 7 \\ \hline 112 \\ \times 8 \\ \hline 976 \end{array}$$

Answer 976 unit cubes

**Score Credit 0 (out of 1 credit)**

An incorrect answer is provided.

**37**

A family takes a cake to a party. When the family is ready to leave the party,  $\frac{3}{4}$  of the cake is left. The family leaves  $\frac{1}{2}$  of the leftover cake at the party and takes the remaining cake home. What fraction of all of the cake does the family take home?

*Answer* \_\_\_\_\_ of the cake

## EXEMPLARY RESPONSE

37

A family takes a cake to a party. When the family is ready to leave the party,  $\frac{3}{4}$  of the cake is left. The family leaves  $\frac{1}{2}$  of the leftover cake at the party and takes the remaining cake home. What fraction of all of the cake does the family take home?

Answer  $\frac{3}{8}$  OR equivalent of the cake

# GUIDE PAPER 1

37

A family takes a cake to a party. When the family is ready to leave the party,  $\frac{3}{4}$  of the cake is left. The family leaves  $\frac{1}{2}$  of the leftover cake at the party and takes the remaining cake home. What fraction of all of the cake does the family take home?

Answer

$$\frac{3}{8}$$

of the cake

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

A correct answer is provided.

## GUIDE PAPER 2

37

A family takes a cake to a party. When the family is ready to leave the party,  $\frac{3}{4}$  of the cake is left. The family leaves  $\frac{1}{2}$  of the leftover cake at the party and takes the remaining cake home. What fraction of all of the cake does the family take home? [1]

$$\frac{3}{4} \times \frac{1}{2} = \frac{3}{8}$$

Answer  $\frac{3}{8}$  of the cake

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

A correct answer is provided.

## GUIDE PAPER 3

37

A family takes a cake to a party. When the family is ready to leave the party,  $\frac{3}{4}$  of the cake is left. The family leaves  $\frac{1}{2}$  of the leftover cake at the party and takes the remaining cake home. What fraction of all of the cake does the family take home?

$$\frac{3}{4} \times \frac{1}{2}$$

$$= \frac{3}{4}$$

Answer

of the cake

**Score Credit 0 (out of 1 credit)**

An incorrect answer is provided.

**38**

A teacher has 55 sheets of stickers with a total of 1,320 stickers. Each sheet has the same number of stickers. How many stickers are on each sheet?

*Answer* \_\_\_\_\_ stickers

## EXEMPLARY RESPONSE

38

A teacher has 55 sheets of stickers with a total of 1,320 stickers. Each sheet has the same number of stickers. How many stickers are on each sheet?

Answer 24 stickers

# GUIDE PAPER 1

38

A teacher has 55 sheets of stickers with a total of 1,320 stickers. Each sheet has the same number of stickers. How many stickers are on each sheet?

Answer

24

:  
stickers

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

A correct answer is provided.

## GUIDE PAPER 2

38

A teacher has 55 sheets of stickers with a total of 1,320 stickers. Each sheet has the same number of stickers. How many stickers are on each sheet? [1]

The image shows two sets of handwritten calculations. On the left, there is a multiplication calculation:  $\begin{array}{r} 25 \\ \times 24 \\ \hline 100 \\ + 50 \quad \downarrow \\ \hline 1320 \end{array}$ . The result 1320 is crossed out with a large diagonal line. On the right, there is a division calculation: 
$$\begin{array}{r} \begin{array}{c} \times 24 \\ \hline 1320 \\ -110 \\ \hline 220 \\ -220 \\ \hline 000 \end{array} \\ 55 \end{array}$$
.

Answer 24 stickers

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

A correct answer is provided.

# GUIDE PAPER 3

38

A teacher has 55 sheets of stickers with a total of 1,320 stickers. Each sheet has the same number of stickers. How many stickers are on each sheet? [1]

$$\begin{array}{r} & 2 \ 3 \\ 55 | & \overline{1,320} \\ -111 & \hline 110 \\ 1 & 1 \\ 55 & \overline{-165} \\ \times 2 & 45 \\ \hline 110 & 5 \\ & \overline{165} \\ & +5 \\ & \hline 220 \end{array}$$

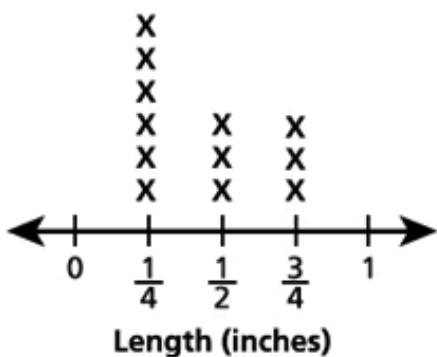
Answer 23 stickers

**Score Credit 0 (out of 1 credit)**

An incorrect answer is provided.

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

### ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end?

Show your work.

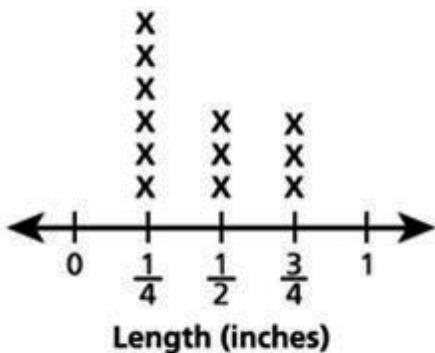
Answer \_\_\_\_\_ inches

## EXEMPLARY RESPONSE

39

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end?

Show your work.

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{6}{4} = 1\frac{1}{2}$$

$$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{3}{2} = 1\frac{1}{2}$$

$$\frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{9}{4} = 2\frac{1}{4}$$

$$1\frac{1}{2} + 1\frac{1}{2} + 2\frac{1}{4} = 5\frac{1}{4}$$

*OR*

$$(6 \times \frac{1}{4}) + (3 \times \frac{1}{2}) + (3 \times \frac{3}{4}) =$$

$$\frac{6}{4} + \frac{3}{2} + \frac{9}{4} = \frac{6}{4} + \frac{6}{4} + \frac{9}{4} = \frac{21}{4}$$

*OR other valid process*

Answer  $5\frac{1}{4}$  or  $\frac{21}{4}$  inches  
*OR equivalent*

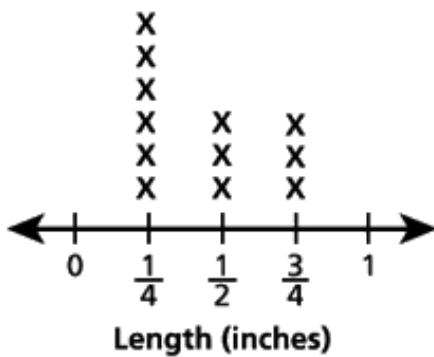
# GUIDE PAPER 1

Additional

39

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

## ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end?

Show your work.

$$\begin{aligned}\frac{1}{4} \times \frac{6}{1} &= \frac{6}{4} = 1\frac{2}{4} \\ \frac{1}{2} \times \frac{3}{1} &= \frac{3}{2} = 1\frac{1}{2} = 1\frac{2}{4} \\ \frac{3}{4} \times \frac{3}{1} &= \frac{9}{4} = 2\frac{1}{4}\end{aligned}$$

$$\begin{array}{r} 1\frac{2}{4} \\ + 1\frac{2}{4} \\ + 2\frac{1}{4} \\ \hline 4\frac{5}{4} = 5\frac{1}{4} \end{array}$$

Answer

$5\frac{1}{4}$

inches

## Score Credit 2 (out of 2 credits)

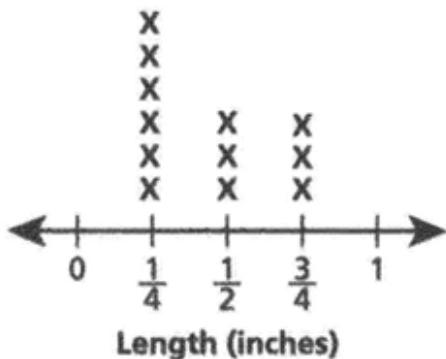
This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The total length of all the erasers is correctly calculated using sound procedures. This response is complete and correct.

## GUIDE PAPER 2

39

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end? [2]

Show your work.

$$\frac{1}{4} \times \frac{6}{1} = \frac{6}{4}$$

$$\frac{6}{4} + \frac{6}{4} = \frac{12}{4} + \frac{9}{4} = \frac{21}{4}$$

$$\frac{1}{2} \times \frac{3}{1} = \frac{3}{2} = \frac{6}{4}$$

$$\frac{21}{4} = 5\frac{1}{4}$$

$$\frac{3}{4} \times \frac{3}{1} = \frac{9}{4}$$

Answer  $5\frac{1}{4}$  inches

### Score Credit 2 (out of 2 credits)

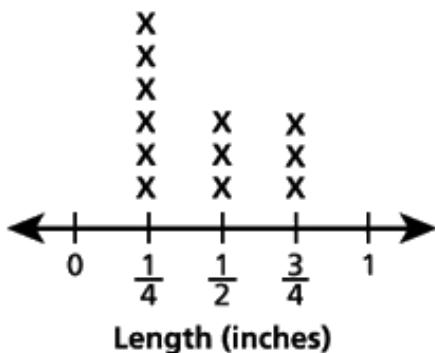
This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The total length of all the erasers is correctly calculated using sound procedures. This response is complete and correct.

## GUIDE PAPER 3

39

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end?

Show your work.

$$\frac{6}{4} = 1\frac{2}{4}$$

$$\frac{3}{2} = 1\frac{2}{4}$$

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

$$1\frac{2}{4} + 1\frac{2}{4} + 2\frac{1}{4} = 5\frac{1}{4}$$

Answer

$$5\frac{1}{4}$$

inches

### Score Credit 2 (out of 2 credits)

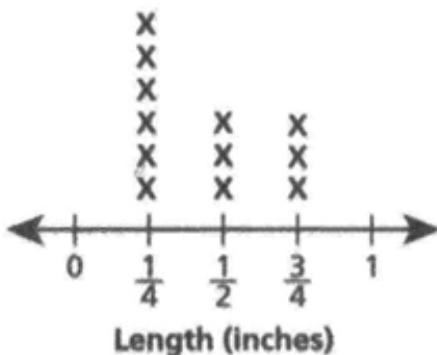
This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The total length of all the erasers is correctly calculated using sound procedures. This response contains sufficient work to demonstrate a thorough understanding.

## GUIDE PAPER 4

39

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end? [2]

Show your work.

$$\begin{aligned} & \frac{1\frac{1}{2}}{+} + \frac{1\frac{1}{2}}{+} + \frac{1\frac{1}{4}}{=} = 4\frac{1}{4} \\ & \left(6 \times \frac{1}{4}\right) + \left(3 \times \frac{1}{2}\right) + \left(3 \times \frac{3}{4}\right) \\ & = 4\frac{1}{4} \end{aligned}$$

Answer  $4\frac{1}{4}$  inches

### Score Credit 1 (out of 2 credits)

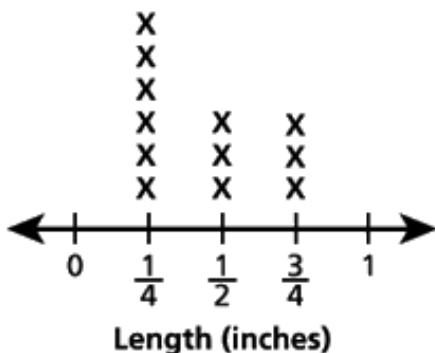
This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Although a correct expression is written to determine the total length, one of the quantities is incorrectly calculated ( $1\frac{1}{4}$ ), resulting in an incorrect solution. This response contains an incorrect solution but applies a mathematically appropriate process.

# GUIDE PAPER 5

39

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end?

Show your work.

$$\begin{aligned}\frac{1}{4} \times 6 &= 1\frac{2}{4} \\ \frac{1}{2} \times 3 &= 1\frac{1}{2} \\ \frac{3}{4} \times 3 &= 2\frac{2}{4} \\ 1\frac{2}{4} + 2\frac{2}{4} + 1\frac{1}{2} &= 5\frac{2}{4}\end{aligned}$$

Answer  $5\frac{2}{4}$  inches

## Score Credit 1 (out of 2 credits)

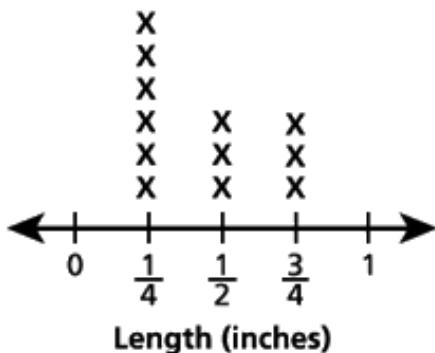
This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. A total length of all the erasers is determined using a sound procedure, however, a multiplication error results in an incorrect value of  $2\frac{2}{4}$  leading to an incorrect solution. This response contains an incorrect solution but applies a mathematically appropriate process.

# GUIDE PAPER 6

39

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end?

Show your work.

$$(\frac{1}{4} \times 6) + (\frac{1}{2} \times 3) + (\frac{3}{4} \times 3) = 5$$

Answer 5 inches

## Score Credit 1 (out of 2 credits)

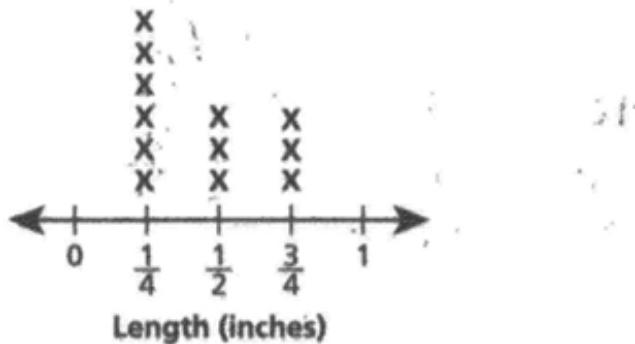
This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. A correct expression is written to determine the total length; however, an incorrect solution is provided. This response correctly addresses only some elements of the task.

# GUIDE PAPER 7

39

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

ERASER LENGTHS



What is the total length, in inches, of all the erasers when they are lined up end to end? [2]

Show your work.

$$\begin{array}{l} \text{LCM} \\ 4 | \cancel{1} \cancel{8} \cancel{1} \cancel{2} \quad \frac{1}{4} \\ 2 | \cancel{2} \cancel{4} \cancel{0} \cancel{8} \quad + \\ 4 | \cancel{0} \cancel{8} \cancel{1} \cancel{2} \quad \frac{1}{2} \\ \hline \frac{3}{4} \\ \text{Answer} \quad \underline{\underline{+ \frac{6}{4}}} \end{array} \qquad \begin{array}{l} \frac{1}{4} \\ \frac{2}{4} \\ \frac{3}{4} \\ \hline \frac{6}{4} \end{array} \qquad \begin{array}{r} 4 \sqrt{1} \\ - 4 \\ \hline 0 \end{array} \qquad \begin{array}{r} 1 \\ \hline 4 \end{array}$$

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 of the lengths are added, holistically, this response is insufficient to show any understanding.

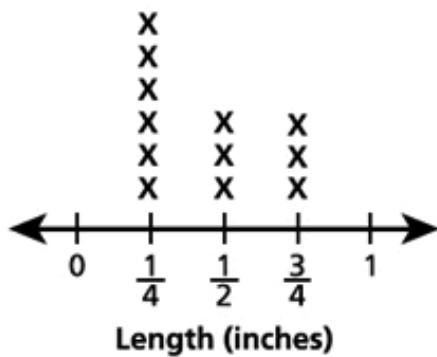
# GUIDE PAPER 8

Additional

39

Students in a fifth-grade math class measured the lengths of 12 erasers. The line plot below shows the results.

**ERASER LENGTHS**



What is the total length, in inches, of all the erasers when they are lined up end to end?

Show your work.

$$5\frac{1}{2} + \frac{3}{4} = 6\frac{1}{4}$$

Answer

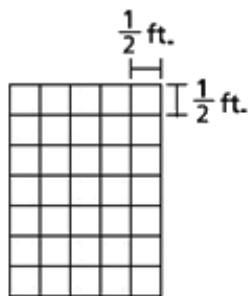
$$6\frac{1}{4}$$

inches

**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 expression is written to determine the total length, and an incorrect solution is provided. It is not clear how the values in the expression are obtained. Holistically, this response is insufficient to show any understanding.

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top?

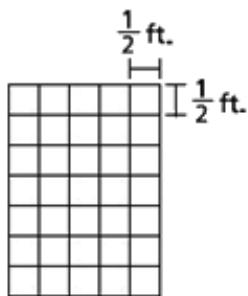
*Show your work.*

Answer \_\_\_\_\_ square feet

## EXEMPLARY RESPONSE

40

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top?

Show your work.

$$(\frac{1}{2} \times 5) \times (\frac{1}{2} \times 7) = \frac{5}{2} \times \frac{7}{2} = \frac{35}{4} = 8\frac{3}{4}$$

*OR*

$$(\frac{1}{2} \times \frac{1}{2}) \times 35 = \frac{1}{4} \times 35 = \frac{35}{4} = 8\frac{3}{4}$$

*OR other valid process*

$$\frac{35}{4} \text{ or } 8\frac{3}{4}$$

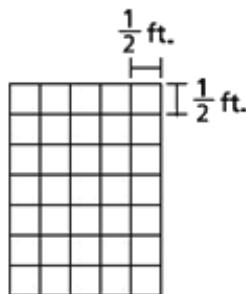
Answer \_\_\_\_\_ square feet

# GUIDE PAPER 1

Additional

40

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top?

Show your work.

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

$$35 \times \frac{1}{4} = \frac{35}{4} = 8\frac{3}{4} \text{ square feet}$$

5x7=35 square tiles

$8\frac{3}{4}$  square  
feet

Answer

square feet

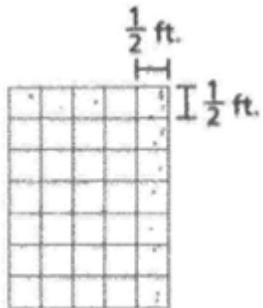
## Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The area of one tile is correctly calculated and correctly multiplied by the total number of tiles to determine the total area. This response is complete and correct.

## GUIDE PAPER 2

40

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top? [2]

Show your work.

$$\frac{7}{2} \times \frac{1}{2} = \frac{7}{2} = 3\frac{1}{2}$$

$$\frac{5}{2} \times \frac{1}{2} = \frac{5}{2} = 2\frac{1}{2}$$

$$3\frac{1}{2} \times 2\frac{1}{2} =$$

$\checkmark$

$$\frac{7}{2} \times \frac{5}{2} = \frac{35}{4} = 8\frac{3}{4}$$

Answer 8 3/4 square feet

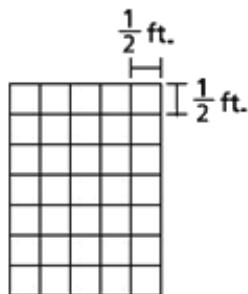
### Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The dimensions of the table top are correctly calculated and correctly multiplied to determine the total area. This response is complete and correct.

## GUIDE PAPER 3

40

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top?

Show your work.

$$\text{Area} = L \times W$$

$$3.5 \times 2.5$$

$$8.75$$

Answer

8.75

square feet

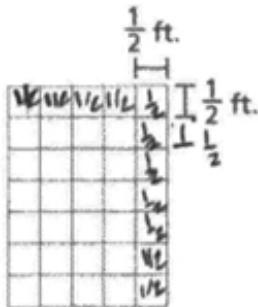
### Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The dimensions of the table top are correctly identified and correctly multiplied to determine the total area. Although the work to calculate the dimensions is not shown, this response contains sufficient work to demonstrate a thorough understanding.

# GUIDE PAPER 4

40

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



$$1\frac{1}{2} \times \frac{5}{2} = \frac{52}{4}$$

What is the area, in square feet, of the table top? [2]

Show your work.

$$\begin{array}{r} 01 \\ 4 \sqrt{35} \\ \underline{-32} \\ 03 \end{array}$$

$$7\frac{3}{4}$$

Answer  $7\frac{3}{4}$  square feet

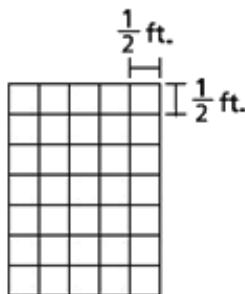
## Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The dimensions of the table top are correctly calculated and multiplied to determine the total area; however, an error occurs when converting  $\frac{35}{4}$  to a mixed number. This response contains an incorrect solution but applies a mathematically appropriate process.

## GUIDE PAPER 5

40

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top?

Show your work.

$$5 \times 7 = 35 \div 2 = 17\frac{1}{2}$$

Answer

$$17\frac{1}{2}$$

square feet

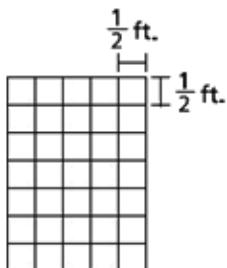
### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The total number of tiles is correctly calculated; however, it is inappropriately divided by 2 instead of 4 when determining the total area. This response correctly addresses only some elements of the task.

# GUIDE PAPER 6

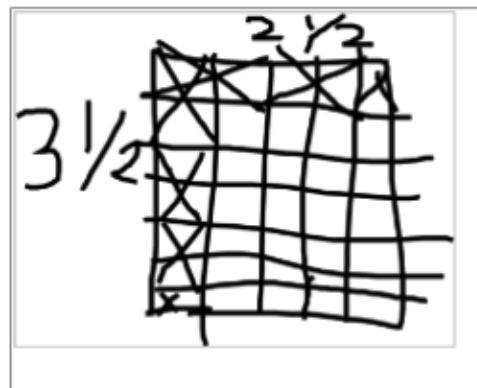
40

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top?

Show your work.



$$3\frac{1}{2} \times 2\frac{1}{2} = 8\frac{1}{2}$$

Answer

square feet

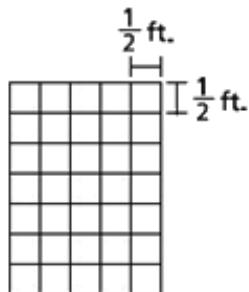
## Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The dimensions of the table top are correctly calculated, and a correct expression is written to determine the total area; however, a multiplication error results in an incorrect solution. This response contains an incorrect solution but applies a mathematically appropriate process.

## GUIDE PAPER 7

40

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top?

Show your work.

$$\frac{1}{2} \times 30 = 17\frac{1}{2}$$

Answer

$$17\frac{1}{2}$$

square feet

### Score Credit 0 (out of 2 credits)

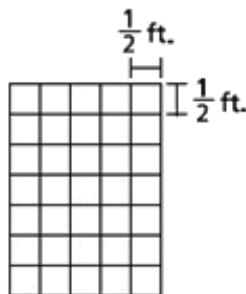
This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The total number of tiles and the area of one tile are incorrectly identified, and the values are incorrectly multiplied. This response is incorrect and is insufficient to show any understanding.

# GUIDE PAPER 8

Additional

40

A table top is completely covered with square tiles as shown below. Each square tile has a side length of  $\frac{1}{2}$  foot.



What is the area, in square feet, of the table top?

Show your work.

I believe that the area is 70/2, I think this because there are 35 cubes and since 1/2 is for each side  $35 + 35 = 70$

Answer

70

square feet

## 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. Two incorrect solutions and an incorrect explanation are provided. Holistically, this response is insufficient to show any understanding.

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

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## EXEMPLARY RESPONSE

41

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

Rosa has more cards in her collection.

To find the number Steve has you would multiply the number Rosa has by  $\frac{1}{8}$ , and when you multiply a whole number by a fraction less than one the product is less than the original whole number.

*OR other valid explanation*

# GUIDE PAPER 1

Additional

41

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

*Rosa has more baseball cards because a fraction less than one is only part of a whole, in this case, the amount of baseball cards that Rosa has is the whole and the amount of cards that Steve has is the fraction less than one.*

*1  
got*

## Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. Rosa is correctly identified to have more cards, and a correct explanation comparing the fraction with 1 is provided to support the choice. Although the amount of cards that Steve has is stated to be “*the fraction less than one*,” this is previously defined as the “*part of a whole*” in the explanation. Holistically, the explanation is sufficient to show a thorough understanding.

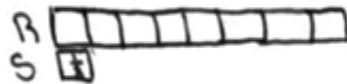
## GUIDE PAPER 2

41

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

Rosa; To find Steve's amount of cards, you need to divide Rosa by 8. That would give you what  $\frac{1}{8}$  of the total amount is, or, a smaller portion.



### Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. Rosa is correctly identified to have more cards, and a correct explanation comparing values using division and a diagram is provided to support the choice. The explanation is complete and correct.

## GUIDE PAPER 3

41

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

Rosa has more baseball cards, because Steve only has  $\frac{1}{8}$  as many, so his collection is smaller because  $\frac{1}{8}$  equals a whole (Rosa's amount of cards) so  $\frac{1}{8}$  (Steve's amount) is smaller. Therefore saying that Rosa has more cards.

### Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. Rosa is correctly identified to have more cards, and a correct explanation comparing  $\frac{1}{8}$  with  $\frac{8}{8}$  is provided to support the choice. The explanation is sufficient to show a thorough understanding.

## GUIDE PAPER 4

41

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

Rosa has more baseball cards because Steve has  $\frac{1}{8}$  as many as Rosas  $\frac{8}{8}$

### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Rosa is correctly identified to have more cards, and the explanation suggests some understanding (“has  $\frac{1}{8}$  as many as Rosas  $\frac{8}{8}$ ”). However, the explanation is incomplete because the two fractions are not compared. This response correctly addresses only some elements of the task.

## GUIDE PAPER 5

41

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

Rosa has more base ball cards.Evidence is WHEN SOMEONE HAS A FRACTION OF THAT MEANS THAT THE PERSON WITH THE FRACTION HAS A PEICE OF WHAT THE OTHER PERSON HAS

### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Rosa is correctly identified to have more cards, however, a partially correct explanation is provided. The fraction is not identified to be less than 1, and the written explanation is incorrect for fraction values higher than 1. This response correctly addresses only some elements of the task.

## GUIDE PAPER 6

41

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

Rosa has more cards. Steve has  $\frac{1}{8}$  of Rosa amount of cards. If Rosa had 20 cards Steve would have  $\frac{1}{8}$  of 20 cards.

### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Rosa is correctly identified to have more cards, and the explanation suggests some understanding. However, the explanation is incomplete because the values are not clearly compared. This response correctly addresses only some elements of the task.

## GUIDE PAPER 7

41

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

Explain your answer.

Rosa has more baseball cards than Steve.

A few things I know about fractions is there are sometimes consecutive and prime numbers, And ~~they~~ there are also different vocabularies for fractions. fractions equivalents become mixed numbers when using an operation. Fractions can sometimes have switched places, where a bigger/larger number is the denominator and a smaller number is the denominator.

$$\text{Rosa} = ? = \frac{1}{4} = \oplus$$

$$\text{Steve} = \frac{1}{8} = \bigcirc \quad \frac{1}{8} \times \frac{2}{2} = \frac{2}{8} = \frac{1}{4}$$

2 = Rosa & Steve.

### 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 Rosa is correctly identified to have more cards and the meaning of  $\frac{1}{8}$  as it relates to a whole is correctly represented using a diagram, the explanation is irrelevant. Holistically, the explanation is insufficient to show any understanding.

## GUIDE PAPER 8

Additional

41

Rosa and Steve each have a baseball card collection. Steve has  $\frac{1}{8}$  as many baseball cards in his collection as Rosa. Who has more baseball cards? Be sure to include what you know about fractions in your answer.

*Explain your answer.*

I think Rosa has more because  
the bigger the denominator the smaller  
the pieces.

### 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 Rosa is correctly identified to have more cards, fraction values are not compared, and an irrelevant explanation is provided. The explanation is insufficient to show any understanding.

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form?  
Be sure to include the correct number in standard form in your answer.

*Explain your answer.*

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## EXEMPLARY RESPONSE

42

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form? Be sure to include the correct number in standard form in your answer.

*Explain your answer.*

The standard form is 362.408.

The student did not represent the hundredths and thousandths digits correctly in the expanded form. The digit 0 should be multiplied by  $\frac{1}{100}$  and the digit 8 should be multiplied by  $\frac{1}{1,000}$ .

*OR*

The standard form is 362.408.

The student put 8 in the hundredths place, and 8 should be in the thousandths place.

*Or other valid explanation*

# GUIDE PAPER 1

Additional

42

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form? Be sure to include the correct number in standard form in your answer.

Explain your answer.

The student was supposed to do  $(4 \times 10)$  then  $(0 \times 100)$  and then go on until you get to thousandths but he didn't add the zero as the place holder, so that the 8 could be in the thousandths place. The correct answer would be  $(3 \times 100) + (6 \times 10) + (1 \times 2) + (4 \times \frac{1}{10}) + (0 \times \frac{1}{100}) + (8 \times \frac{1}{1000})$ , because the eight landed in the thousandths place. 362.408. The number the student wrote was 362.48 which was wrong.

## Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The error is correctly identified and explained using place values and expanded form, and the number is correctly written in standard form. The explanation is complete and correct.

## GUIDE PAPER 2

42

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right) \quad \rightarrow \quad 362,408$$

What error did the student make when writing the number in expanded form? Be sure to include the correct number in standard form in your answer.

*Explain your answer.*

The error was  $\left(8 \times \frac{1}{100}\right)$ . The correct way is  $(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$

### Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The error is correctly identified and explained using expanded form, and the number is correctly written in standard form. Although the digit 0 is not referenced in the expanded form, the explanation is sufficient to show a thorough understanding.

## GUIDE PAPER 3

42

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form? Be sure to include the correct number in standard form in your answer.

*Explain your answer.*

362.408, Thousandths  
Hundreds

The error that the student made was that he or she put the 8 in the hundredths place and not in the thousandths, because after the decimal point you don't start with the ones place you start in the tenths place.

### Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The error is correctly identified and explained using place values, and the number is correctly written in standard form. The explanation is complete and correct.

## GUIDE PAPER 4

42

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

362.408

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form? Be sure to include the correct number in standard form in your answer.

*Explain your answer.*

The student multiplied the 8 by the wrong so his answer would be 362.48.

---

### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The error is correctly identified, and the explanation contains a correct number in standard form; however, the explanation is incomplete because the error is not clearly explained. This response correctly addresses only some elements of the task.

## GUIDE PAPER 5

42

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form?  
Be sure to include the correct number in standard form in your answer.

*Explain your answer.*

The error the student made is, the student put the 8 in the hundredths place when it was supposed to be in the thousandths place.

$$(3 \times 100) + (6 \times 10) + (1 \times 2) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{1000}\right)$$

### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The error is correctly identified and explained using place values and expanded form; however, the number is not written in standard form. This response correctly addresses only some elements of the task.

## GUIDE PAPER 6

42

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form? Be sure to include the correct number in standard form in your answer.

*Explain your answer.*

The student didn't add the decimal for 362.408. Also, it shows eight hundredths, not eight thousands.

### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The error is correctly identified and partially explained, and the number is correctly written in standard form; however, the thousandths place value is incorrectly explained as thousands. This response correctly addresses only some elements of the task.

## GUIDE PAPER 7

42

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form? Be sure to include the correct number in standard form in your answer.

Explain your answer.

the Error is that in the number  $(4 \times \frac{1}{10})$  the student put 2 and that will be  $\frac{4}{10}$  but its  $(4 \times 100)$  and she put too in the number  $[8+too]$  it's  $(8 \times 1,000)$ .

$$(3 \times 100) + (6 \times 10) + (1 \times 2) + (4 \times 100) + (8 \times 1,000)$$

$\downarrow \quad \downarrow \quad \downarrow \quad \downarrow \quad \downarrow$

300      60      2      400      8,000

$\frac{4 \times \frac{1}{10}}{1} = \frac{4}{10}$

### 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 error is incorrectly explained, and the number is not written in standard form. The explanation is insufficient to show any understanding.

# GUIDE PAPER 8

Additional

42

A student incorrectly wrote the number three hundred sixty-two and four hundred eight thousandths in expanded form as shown below.

$$(3 \times 100) + (6 \times 10) + (2 \times 1) + \left(4 \times \frac{1}{10}\right) + \left(8 \times \frac{1}{100}\right)$$

What error did the student make when writing the number in expanded form? Be sure to include the correct number in standard form in your answer.

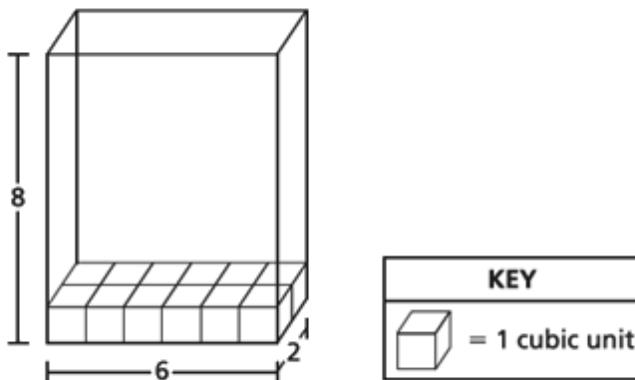
*Explain your answer.*

The student's error is the number was .048 when he/her put  $\frac{1}{10}$  and  $\frac{1}{100}$  when it is supposed to be  $\frac{1}{100}$  and  $\frac{1}{1000}$ . So what he/her put down 1 tenth and 1 hundredth, the answer was 1 hundredths and 1 thousandths.

## 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  $\frac{1}{100}$  is correctly identified as an error and this error is correctly explained, the rest of the explanation is incorrect. An additional error is identified and incorrectly explained, and an incorrect decimal part of the number is written. Holistically, the explanation is insufficient to show any understanding.

The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism?

*Explain how you determined your answer.*

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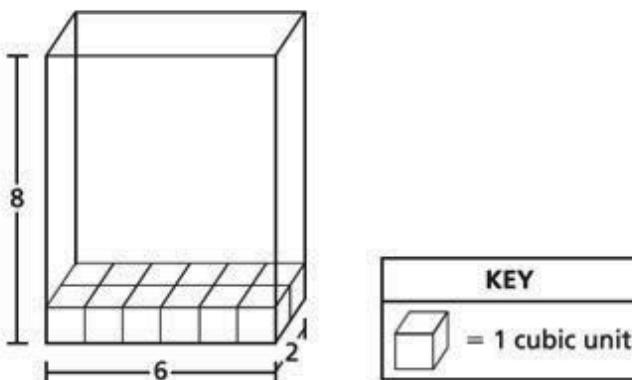
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## EXEMPLARY RESPONSE

43

The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism?

*Explain how you determined your answer.*

**12 × 8 = 96 cubes are needed to fill the entire box. The bottom layer is filled with  $6 \times 2 = 12$  cubes.  
So,  $96 - 12 = 84$  more cubes are needed to completely fill the box.**

**OR**

**The remaining height of the prism to fill with blocks is 7 unit cubes. So,  $7 \times 6 \times 2 = 42 \times 2 = 84$  more cubes are needed to completely fill the box.**

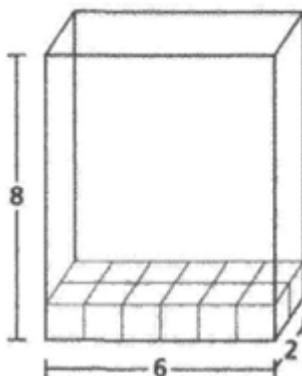
***OR other valid explanation***

# GUIDE PAPER 1

Additional

43

The base of the right rectangular prism shown below is filled with unit cubes.



$$\begin{array}{r} 7 \times 6 \times 2 \\ \checkmark \\ 42 \\ \times 2 \\ \hline 84 \end{array}$$

KEY
= 1 cubic unit

How many more unit cubes are needed to completely fill the right rectangular prism? [2]

*Explain how you determined your answer.*

The answer is 84 unit cubes left because if you look at the rectangular prism you can see that there is already one layer of unit cubes in the rectangular prism! If the height is 8 but there is already one layer down it would be 7 instead of 8.

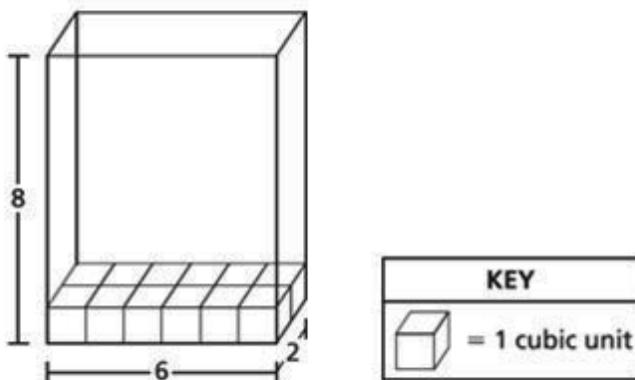
## Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The height of the empty part of the prism is correctly identified, and the additional number of unit cubes needed to fill the prism is correctly determined. The explanation is complete and correct.

## GUIDE PAPER 2

43

The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism?

*Explain how you determined your answer.*

84 cubic units because  $6 \times 2 \times 8 = 96$  and  $6 \times 2 = 12$   
so  $96 - 12 = 84$

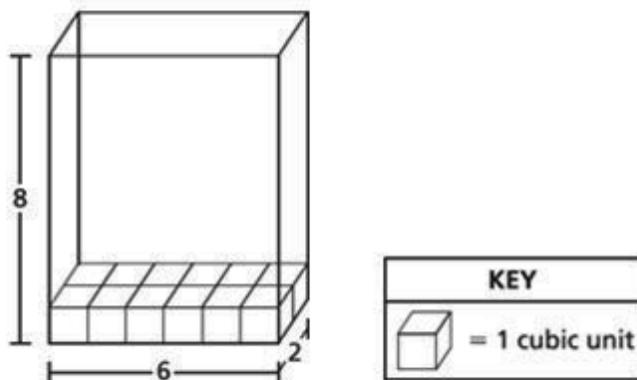
### Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The total volume of the prism is correctly calculated, and the bottom layer of the prism is correctly subtracted from the total volume to determine the additional number of unit cubes needed to fill the prism. The explanation is complete and correct.

# GUIDE PAPER 3

43

The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism?

*Explain how you determined your answer.*

$$12 \times 7 = 84$$

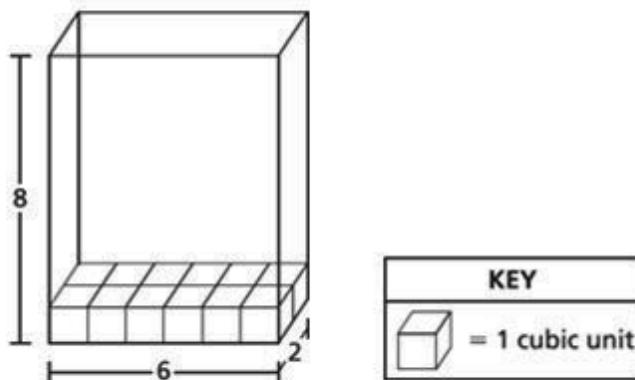
## Score Credit 2 (out of 2 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The height of the empty part of the prism is correctly identified, and the additional number of unit cubes needed to fill the prism is correctly determined. The explanation is sufficient to show a thorough understanding.

## GUIDE PAPER 4

43

The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism?

*Explain how you determined your answer.*

i think he will need 86 more cubic

12  
12  
12  
12  
12  
12  
12  
12

$$= 98 - 12 = 86 \text{ so } 86$$

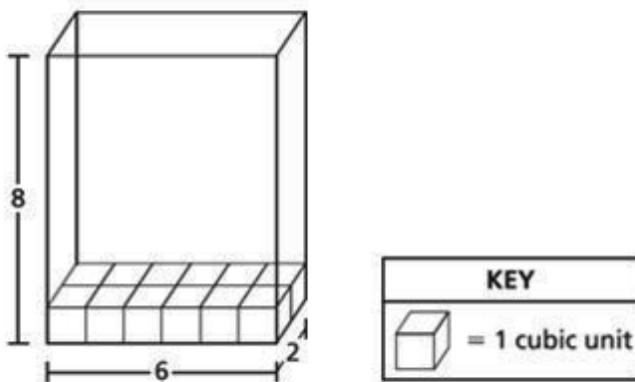
### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. Repeated addition is used to determine the total volume, and the bottom layer is correctly subtracted from the calculated total volume; however, a calculation error occurs when adding the layers, resulting in an incorrect solution. This response contains an incorrect solution but applies a mathematically appropriate process.

## GUIDE PAPER 5

43

The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism?

*Explain how you determined your answer.*

I deturmed my answer by seeinhg that it is now 1 cubic unit high but everything else is the same so I did  $1 \times 6 = 6$  then did  $6 \times 2 = 12$  and then did  $12 \times 7$  because it needs 7 more storyies to fully complet the rectangle.

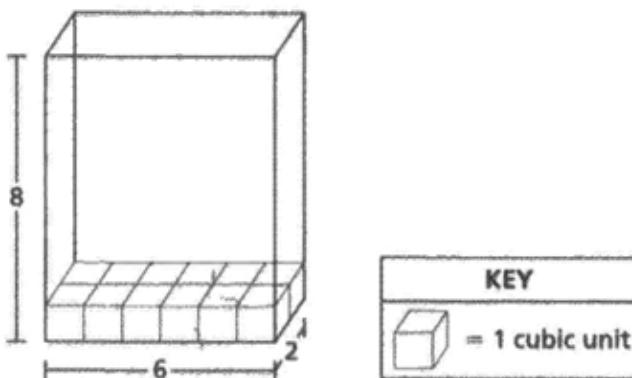
### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The height of the empty part of the prism is correctly identified, and a correct expression is written to determine the additional number of unit cubes needed to fill the prism; however, the solution is not clearly identified. This response correctly addresses only some elements of the task.

## GUIDE PAPER 6

43

The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism? [2]

*Explain how you determined your answer.*

You need 46 more unit cubes, I know this because I multiplied the length, the width, and the height of the rectangle!

$$\begin{array}{r} 8 \times 6 \times 2 \\ \times \quad \quad \quad \diagdown \\ \times \quad \quad \quad 12 \\ \hline 46 \end{array}$$

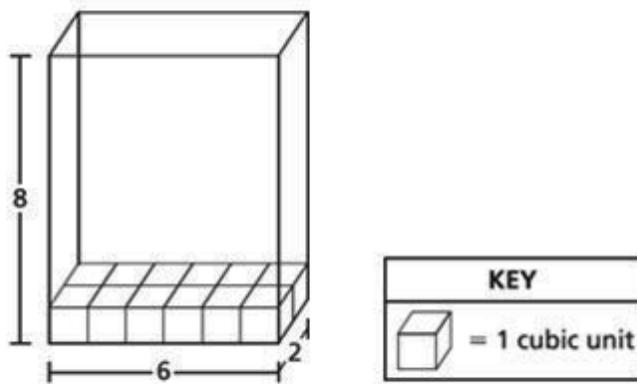
### Score Credit 1 (out of 2 credits)

This response demonstrates only a partial understanding of the mathematical concepts and procedures in the task. The total volume of the prism is correctly determined; however, the volume of the empty part of the prism is not addressed. This response correctly addresses only some elements of the task.

# GUIDE PAPER 7

43

The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism?

*Explain how you determined your answer.*

84 cubes

## Score Credit 0 (out of 2 credits)

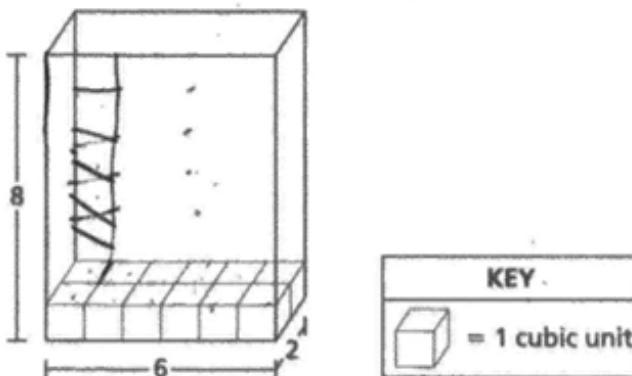
This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The correct solution is provided with no explanation. Per Scoring Policy #3 for 2- and 3-credit responses, this response receives no credit.

# GUIDE PAPER 8

Additional

43

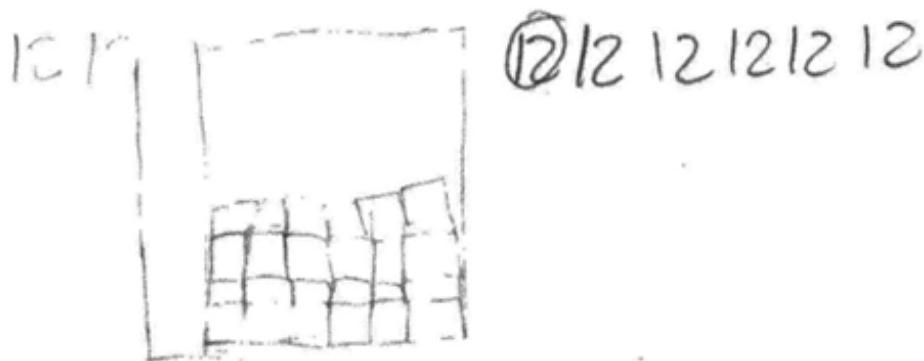
The base of the right rectangular prism shown below is filled with unit cubes.



How many more unit cubes are needed to completely fill the right rectangular prism? [2]

*Explain how you determined your answer.*

*They need 5 more unit cubes to fill up the whole thing.*



## 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 the number of unit cubes in the bottom layer is correctly identified, and an attempt is made to count the additional number of unit cubes needed to fill the prism, an incorrect solution is provided, and it is not clear how it is obtained. Holistically, the explanation is insufficient to show any understanding.

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

*Show your work.*

*Answer* \$ \_\_\_\_\_

## EXEMPLARY RESPONSE

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

*Show your work.*

$$18 \times \$6.75 = \$121.50$$

$$18 / 1.5 = 12$$

$$12 \times \$18.75 = \$225$$

$$\$225.00 - \$121.50 = \$103.50$$

*OR other valid process*

*Answer \$ 103.50*

# GUIDE PAPER 1

Additional

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$18 \text{ yds} = \$6.75$$

$$\begin{array}{r} 6.75 \\ \times 18 \\ \hline 5400 \\ +5750 \\ \hline 121.50 \end{array}$$

$$\begin{array}{r} 3 \\ 1.5 \\ 1.5 \\ 1.5 \\ 1.5 \\ 1.5 \\ 1.5 \\ +1.5 \\ \hline 9.0 \end{array}$$

$$6 \text{ blankets} \times 2 = 18 \text{ yds}$$

$$18 \text{ yds} = 12 \text{ blankets}$$

$$\begin{array}{r} \text{Profit:} \\ 225.00 \\ -121.50 \\ \hline 103.50 \end{array}$$

$$\begin{array}{r} 103.50 \\ +121.50 \\ \hline 225.00 \end{array}$$

$$\begin{array}{r} 18.75 \\ \times 12 \\ \hline 37.50 \\ +18.75 \\ \hline 225.00 \end{array}$$

Answer \$ 103.50

**Score Credit 3 (out of 3 credits)**

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The profit after buying the fabric and selling all the blankets is correctly calculated using sound procedures. This response is complete and correct.

## GUIDE PAPER 2

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$\begin{aligned}18 \times \$6.25 &= \$121.50 \\1.5 \times 12 &= 18 \\12 \times \$18.75 &= \$225.00 \\\$225.00 - \$121.50 &= \$103.50\end{aligned}$$

Answer \$ 103.50

### Score Credit 3 (out of 3 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The profit after buying the fabric and selling all the blankets is correctly calculated using sound procedures. This response is complete and correct.

## GUIDE PAPER 3

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$18 \times 6.75 = 121.5$$

$$12 \times 18.75 = 225$$

$$225 - 121.5$$

Answer \$

103.50

### Score Credit 3 (out of 3 credits)

This response demonstrates a thorough understanding of the mathematical concepts and procedures in the task. The profit after buying the fabric and selling all the blankets is correctly calculated using sound procedures. Although the work to calculate the number of blankets is not shown, this response contains sufficient work to demonstrate a thorough understanding.

## GUIDE PAPER 4

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$\begin{array}{r} \times \frac{6.75}{18} \\ \hline 121.50 \end{array} \quad 18 \div 1.5 = 12 \quad \begin{array}{r} \times \frac{18.75}{12} \\ \hline 224.00 \end{array} \quad - \begin{array}{r} \frac{224.00}{121.50} \\ \hline 102.50 \end{array}$$

Answer \$

102.50

### Score Credit 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task. The number of blankets and the cost of fabric are correctly calculated; however, a multiplication error occurs when determining the revenue from selling all the blankets. The calculated revenue and cost are correctly subtracted to determine the profit. This response contains an incorrect solution but provides sound procedures.

# GUIDE PAPER 5

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$\begin{array}{r} \textcircled{1} \\ \$16.75 \xrightarrow{+4} 2 \\ \times 18 \xrightarrow{-1.5} 0 \\ \hline 5400 \\ + 6750 \\ \hline \$121.50 \end{array}$$

$$\begin{array}{r} \textcircled{2} \\ \begin{array}{r} 1.5 \rightarrow 1 \\ \times 18 \xrightarrow{-1.5} 0 \\ \hline 120 \\ + 150 \\ \hline 270 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{3} \\ \begin{array}{r} 18.75 \xrightarrow{+2} 2 \\ \times 27 \xrightarrow{-4.0} 0 \\ \hline 13125 \\ + 37500 \\ \hline 506.25 \end{array} \end{array}$$

$$\begin{array}{r} \textcircled{4} \\ \begin{array}{r} 4 \\ \overline{)506.125} \\ - 121.50 \\ \hline 384.75 \end{array} \end{array}$$

Answer \$ 384.75

## Score Credit 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task. The cost of fabric is correctly calculated. A correct process is used to determine revenue and profit; however, the number of blankets is incorrectly calculated, resulting in an incorrect solution. This response reflects some minor misunderstanding of the underlying mathematical concepts and procedures.

## GUIDE PAPER 6

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$\begin{array}{r} 6.75 \\ \times 18 \\ \hline 1350 \\ 1350 \\ \hline 121.50 \end{array}$$
$$\begin{array}{r} 1.5 \\ \times 12 \\ \hline 18,75 \\ 18,75 \\ \hline 121.00 \\ -121.00 \\ \hline 0.00 \end{array}$$

Answer \$ 94.00

### Score Credit 2 (out of 3 credits)

This response demonstrates a partial understanding of the mathematical concepts and procedures in the task. The number of blankets and the cost of fabric are correctly calculated; however, a multiplication error occurs when determining the revenue from selling all the blankets. The cost of fabric is inappropriately truncated when calculating profit. This response appropriately addresses most, but not all, aspects of the task.

## GUIDE PAPER 7

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

*Show your work.*

$$\$225 - \$121.50 = \$103.50$$

Answer \$

103.50

### Score Credit 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task. Although the profit is correctly calculated, it is not clear how revenue and cost are determined. This response contains the correct solution, but the required work is limited.

# GUIDE PAPER 8

Additional

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$\begin{array}{r} 12 \\ \overline{)18} \\ 18 \\ \hline 0 \end{array}$$
$$111$$
$$1875$$
$$\begin{array}{r} 12 \\ \times 12 \\ \hline 13750 \end{array}$$
$$\begin{array}{r} 1875 \\ + 13750 \\ \hline 225.00 \end{array}$$

Answer \$ 225

## Score Credit 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task. The number of blankets and the revenue from selling all the blankets are correctly calculated; however, the cost of fabric and profit are not addressed. This response addresses some elements of the task correctly but provides reasoning that is incomplete.

## GUIDE PAPER 9

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$\begin{aligned}18 \times \$6.75 &= \$55.10 \text{ spent on fabric} \\18 \div 1.5 &= 12 \text{ how many blankets} \\12 \times 18.75 &= 225.10 \text{ makes after selling the blankets} \\-\frac{55.10}{225.10} \\&\hline 230.00\end{aligned}$$

Answer \$ 230.00

### Score Credit 1 (out of 3 credits)

This response demonstrates only a limited understanding of the mathematical concepts and procedures in the task. The number of blankets is correctly calculated, and correct expressions are written to determine revenue and cost; however, multiplication errors are made, and the subtraction is written in an incorrect order and is incorrectly carried out when determining the profit. This response addresses some elements of the task correctly but exhibits multiple flaws related to misunderstanding of important aspects of the task.

## GUIDE PAPER 10

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$\begin{array}{r} 4\frac{4}{5} \\ \times 18 \\ \hline 340 \\ 750 \\ \hline 760 \\ + 1080 \\ \hline 1930 \end{array}$$

Answer \$ 1930

### 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. Although a correct process is written to determine the cost of fabric, it is incorrectly calculated. The number of blankets, revenue and profit are not addressed. Holistically, this response is insufficient to show any understanding.

## GUIDE PAPER 11

Additional

44

Liam makes and sells handmade blankets. He buys 18 yards of fabric at a rate of \$6.75 per yard. Liam uses 1.5 yards of fabric to make each blanket, and uses all of the fabric. Liam sells each blanket for \$18.75. What is the profit Liam makes after buying the fabric and selling all the blankets?

Show your work.

$$\begin{array}{r} 18 \text{ yards} \\ \$6.75 \text{ per yard} \\ \hline -\$121.50 \end{array}$$

Answer \$

121.50

### 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. Although the cost of fabric is correctly identified, the number of blankets, revenue and profit are not addressed. Holistically, this response is insufficient to show any understanding.