

# New York NYSTP 2018 Grade 3 Math

Exam Materials  
Pages 2 - 20

Answer Key Materials  
Pages 21 - 22

Rubric Materials  
Pages 23 - 91

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



# New York State *Testing Program*

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## 2018 Mathematics Test Session 1

Grade **3**

May 1–3, 2018

Released Questions

# Session 1



## TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before making your choice.
- You have been provided with a ruler to use during the test. Use the ruler whenever you think it will help you to answer the question.

**1** Which expression is another way to show  $8 \times 6$ ?

- A**  $(2 + 4) + 6$
- B**  $(2 + 4) \times 6$
- C**  $(2 \times 4) + 6$
- D**  $(2 \times 4) \times 6$

**2** The distance from Chicago to New York City is 794 miles. What is 794 rounded to the nearest hundred?

- A** 700
- B** 794
- C** 800
- D** 894

**3** What number makes the equation true?

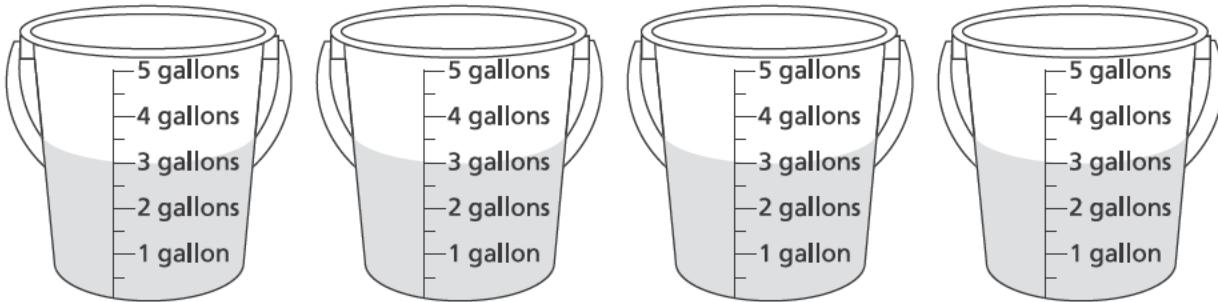
$$4 = \underline{\quad ? \quad} \div 7$$

- A** 11
- B** 21
- C** 28
- D** 32

**GO ON**

6

A third-grade class is having a car wash. They put the same amount of water in each bucket, as shown.



Which expression can be used to find the total amount of water, in gallons, in all the buckets?

- A  $4 \times 3$
- B  $5 \times 3$
- C  $4 \times 4$
- D  $5 \times 4$

7

A bulletin board can be covered completely by 30 square pieces of paper without any gaps or overlaps. If each piece of paper has side lengths of 1 foot, what is the total area of the bulletin board?

- A 1 foot
- B 30 feet
- C 1 square foot
- D 30 square feet

**GO ON**

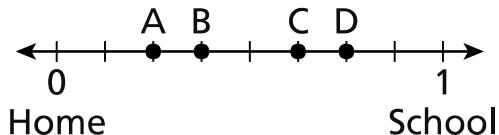
**17**

Joe and Mike both ran the same race. Joe finished the race 4 minutes before Mike. If Mike finished the race at 4:02 p.m., what time did Joe finish the race?

- A 3:58 p.m.
- B 4:06 p.m.
- C 8:02 p.m.
- D 12:02 p.m.

**18**

The distance between Liam's home and his school is exactly 1 mile, as shown on the number line below.

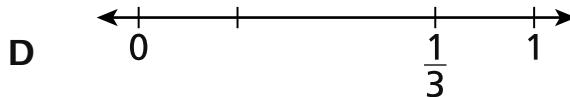
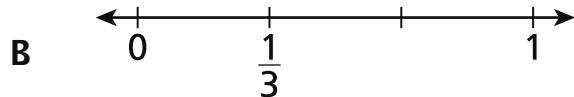
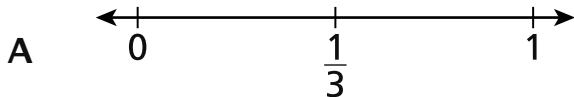


Liam buys a snack at a store that is  $\frac{3}{8}$  mile from his home. What point on the number line shows the location of the store?

- A point A
- B point B
- C point C
- D point D

**GO ON**

- 22** Which number line shows the fraction  $\frac{1}{3}$  plotted correctly?



- 23** A store has 8 fish tanks that each have 40 liters of water. What is the total number of liters of water in all of the fish tanks?

- A 5
- B 48
- C 280
- D 320

- 24** Last week, Paul ate 2 cookies each day for 5 days. This week, he ate 2 cookies each day for 4 days. Which expression can be used to represent the total number of cookies Paul ate in these two weeks?

- A  $2 \times (5 \times 4)$
- B  $2 \times (5 + 4)$
- C  $(2 \times 5) \times (2 \times 4)$
- D  $(2 + 5) \times (2 + 4)$

**25**

Kay and Juanita each have a garden of the same size and shape.

- Kay grows flowers in  $\frac{1}{6}$  of her garden.
- Juanita grows flowers in  $\frac{1}{3}$  of her garden.

Which statement shows a correct comparison of the sections of flowers grown in Kay's garden and Juanita's garden?

- A  $\frac{1}{6} > \frac{1}{3}$
- B  $\frac{1}{6} < \frac{1}{3}$
- C  $\frac{1}{3} = \frac{1}{6}$
- D  $\frac{1}{3} + \frac{1}{6}$

**STOP**

# Session 2



## TIPS FOR TAKING THE TEST

Here are some suggestions to help you do your best:

- Read each question carefully and think about the answer before making your choice or writing your response.
- You have been provided with a ruler to use during the test. Use the ruler whenever you think it will help you to answer the question.
- Be sure to show your work when asked.

**26**

What number makes both equations true?

$$6 \times \underline{\quad} = 48$$

$$48 \div 6 = \underline{\quad}$$

- A** 7
- B** 8
- C** 42
- D** 54

**27**

A teacher puts 5 packages of craft paper into a cabinet. Each package has 80 sheets of paper. What is the total number of sheets of craft paper that the teacher puts into the cabinet?

- A** 40
- B** 85
- C** 400
- D** 450

**GO ON**

- 28** Jaime has a small container that holds exactly  $\frac{1}{4}$  cup of dog food. How many times should Jaime fill the container and pour it into the dog's bowl to make sure the dog gets exactly  $\frac{1}{2}$  cup of food?

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

- 29** Which situation can be solved using the expression  $21 \div 3$ ?
- A finding the number of shirts when there are 3 groups of 21 shirts
  - B finding the number of dresses when 21 more dresses are placed on a rack with 3 dresses
  - C finding the number of jackets left over when 3 out of 21 jackets are sold
  - D finding the number of skirts on each rack when a total of 21 skirts are placed equally on 3 racks

**GO ON**

**30**

A number pattern is shown below.

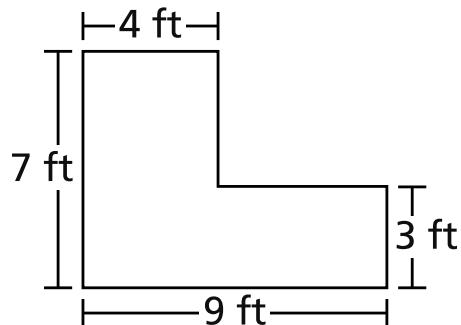
5, 9, 13, 17, 21, 25, 29

Which rule could have been used to make the pattern?

- A** Start with 0. Add 4 each time to get the next number.
- B** Start with 0. Add 5 each time to get the next number.
- C** Start with 5. Add 4 each time to get the next number.
- D** Start with 5. Add 5 each time to get the next number.

**31**

The shape of Cindy's flower garden is shown below.



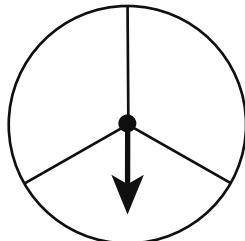
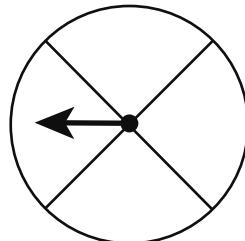
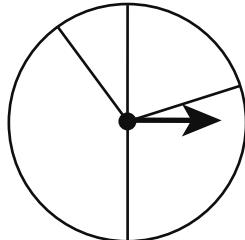
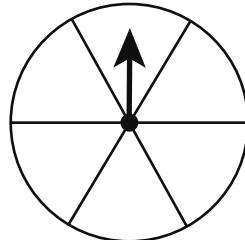
What is the area, in square feet, of Cindy's flower garden?

- A** 23
- B** 32
- C** 43
- D** 47

**GO ON**

**32**

The Diaz family used a spinner to play a game. The spinner was in the shape of a circle. Each section of the spinner was  $\frac{1}{4}$  of the whole circle. Which picture shows a spinner that the Diaz family used?

**A****C****B****D****33**

Which fraction is equivalent to 4?

**A**

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

**B**

$$\frac{8}{4}$$

**C**

$$\frac{4}{4}$$

**D**

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

**GO ON**

**34**

Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

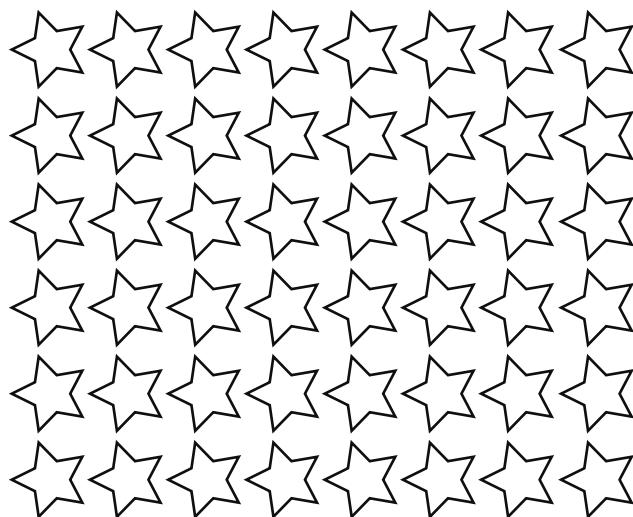
**Show your work.**

**Answer** \_\_\_\_\_ p.m.

**GO ON**

**35**

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

**Answer**

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**GO ON**

**36**

Two teachers each buy pizzas for a party. All of the pizzas are the same size.

- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

**Answer**

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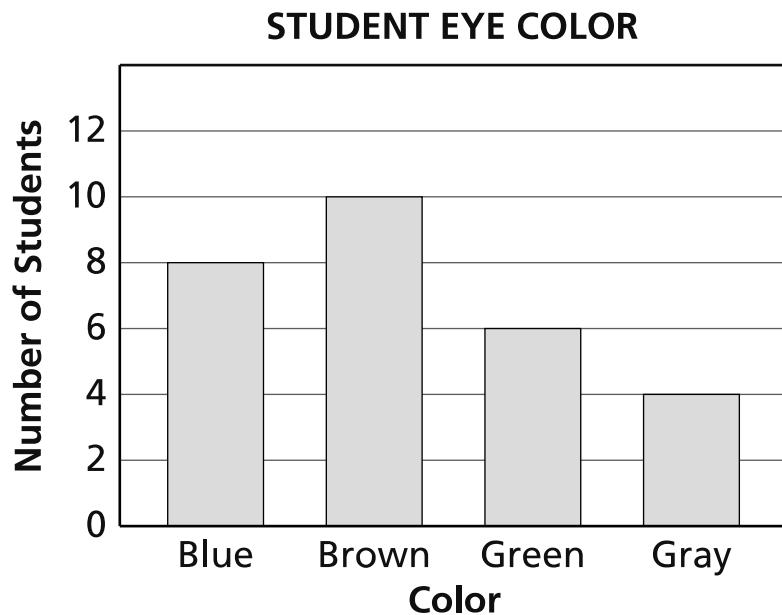
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**GO ON**

**37**

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.



How many **fewer** students have green eyes than students that have blue eyes and brown eyes combined?

*Show your work.*

**Answer** \_\_\_\_\_ fewer students

**GO ON**

**38**

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

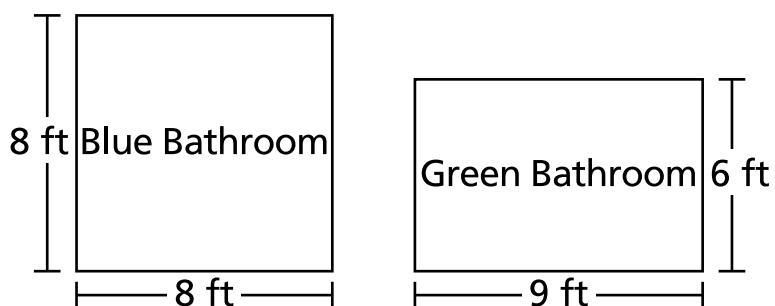
*Show your work.*

**Answer** \_\_\_\_\_ tennis balls

**GO ON**

**39**

The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

*Explain your answer.*

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**GO ON**

**40**

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

*Show your work.*

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

**STOP**

**THE STATE EDUCATION DEPARTMENT**  
**THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234**  
**2018 Mathematics Tests Map to the Standards**  
**Grade 3 Released Questions on EngageNY**

Question	Type	Key	Points	Standard	Cluster	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	CCSS.Math.Content.3.OA.B.5	Operations and Algebraic Thinking	0.78		
2	Multiple Choice	C	1	CCSS.Math.Content.3.NBT.A.1	Numbers and Operations in Base Ten	0.85		
3	Multiple Choice	C	1	CCSS.Math.Content.3.OA.A.4	Operations and Algebraic Thinking	0.75		
6	Multiple Choice	A	1	CCSS.Math.Content.3.OA.A.1	Operations and Algebraic Thinking	0.88		
7	Multiple Choice	D	1	CCSS.Math.Content.3.MD.C.5b	Measurement and Data	0.61		
17	Multiple Choice	A	1	CCSS.Math.Content.3.MD.A.1	Measurement and Data	0.66		
18	Multiple Choice	B	1	CCSS.Math.Content.3.NF.A.2b	Number and Operations—Fractions	0.70		
22	Multiple Choice	B	1	CCSS.Math.Content.3.NF.A.2a	Number and Operations—Fractions	0.62		
23	Multiple Choice	D	1	CCSS.Math.Content.3.MD.A.2	Measurement and Data	0.43		
24	Multiple Choice	B	1	CCSS.Math.Content.3.OA.B.5	Operations and Algebraic Thinking	0.31		
25	Multiple Choice	B	1	CCSS.Math.Content.3.NF.A.3d	Number and Operations—Fractions	0.66		
<b>Session 2</b>								
26	Multiple Choice	B	1	CCSS.Math.Content.3.OA.A.4	Operations and Algebraic Thinking	0.87		
27	Multiple Choice	C	1	CCSS.Math.Content.3.NBT.A.3	Numbers and Operations in Base Ten	0.71		
28	Multiple Choice	C	1	CCSS.Math.Content.3.NF.A.3a	Number and Operations—Fractions	0.51		
29	Multiple Choice	D	1	CCSS.Math.Content.3.OA.A.2	Operations and Algebraic Thinking	0.60		

Question	Type	Key	Points	Standard	Cluster	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 2 continued</b>								
30	Multiple Choice	C	1	CCSS.Math.Content.3.OA.D.9	Operations and Algebraic Thinking	0.77		
31	Multiple Choice	C	1	CCSS.Math.Content.3.MD.C.7d	Measurement and Data	0.36		
32	Multiple Choice	C	1	CCSS.Math.Content.3.G.A.2	Geometry	0.94		
33	Multiple Choice	D	1	CCSS.Math.Content.3.NF.A.3c	Number and Operations—Fractions	0.32		
34	Constructed Response		2	CCSS.Math.Content.3.MD.A.1	Measurement and Data		1.14	0.57
35	Constructed Response		2	CCSS.Math.Content.3.OA.A.1	Operations and Algebraic Thinking		1.62	0.81
36	Constructed Response		2	CCSS.Math.Content.3.NF.A.1	Number and Operations—Fractions		1.00	0.50
37	Constructed Response		2	CCSS.Math.Content.3.MD.B.3	Measurement and Data		1.12	0.56
38	Constructed Response		2	CCSS.Math.Content.3.OA.A.3	Operations and Algebraic Thinking		1.26	0.63
39	Constructed Response		2	CCSS.Math.Content.3.MD.C.7b	Measurement and Data		1.10	0.55
40	Constructed Response		3	CCSS.Math.Content.3.OA.D.8	Operations and Algebraic Thinking		1.17	0.39

\*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.

## 2-Point Holistic Rubric

<b>2 Point</b>	A two-point response includes the correct solution to the question and demonstrates a thorough understanding of the mathematical concepts and/or procedures in the task.  This response <ul 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 Point</b>	A one-point response demonstrates only a partial understanding of the mathematical concepts and/or procedures in the task.  This response <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 Point*</b>	A zero-point 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-Point Holistic Rubric

<b>3 Point</b>	<p>A three-point 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 Point</b>	<p>A two-point 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 Point</b>	<p>A one-point 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 Point*</b>	<p>A zero-point 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).

## **2018 2- and 3-Point Mathematics Scoring Policies**

Below are the policies to be followed while scoring the mathematics tests for all grades:

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, a correct answer with **no** work shown receives **no** credit.
4. If students are **not** directed to show work, any work shown will **not** be scored. This applies to items that do **not** ask for any work and items 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 has been crossed out, the student shall not receive full credit.
8. If the student makes a conceptual error (that is an error in understanding rather than an arithmetic or computational error), that student shall not receive more than 50% credit.
9. Trial-and-error responses are **not** subject to Scoring Policy #6 above, since crossing out is part of the trial-and-error process.
10. 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.
11. In questions requiring number sentences, the number sentences must be written horizontally.
12. When measuring angles with a protractor, there is a +/- 5 degrees deviation allowed of the true measure.
13. 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.

## EXEMPLARY RESPONSE

34

Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

*Show your work.*

$$30 - 24 = 6 \text{ minutes}$$

Beth left her house at 4:06 p.m.

Or any other valid process.

*Answer* \_\_\_\_\_ p.m.

# GUIDE PAPER 1

Additional

34

Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

Show your work.

$$30 - 24 = 6$$

Answer

4:06

p.m.

## Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct procedure is followed to determine the time Beth left her house.

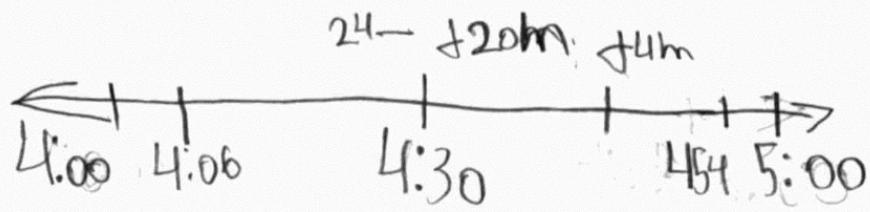
## GUIDE PAPER 2

34

R Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

Show your work.

D



$$\begin{array}{r} 2 \\ 2 \\ - 24 \\ \hline 06 \end{array}$$

W Answer 4:06 p.m.

Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct procedure is followed to determine the time Beth left her house.

## GUIDE PAPER 3

34

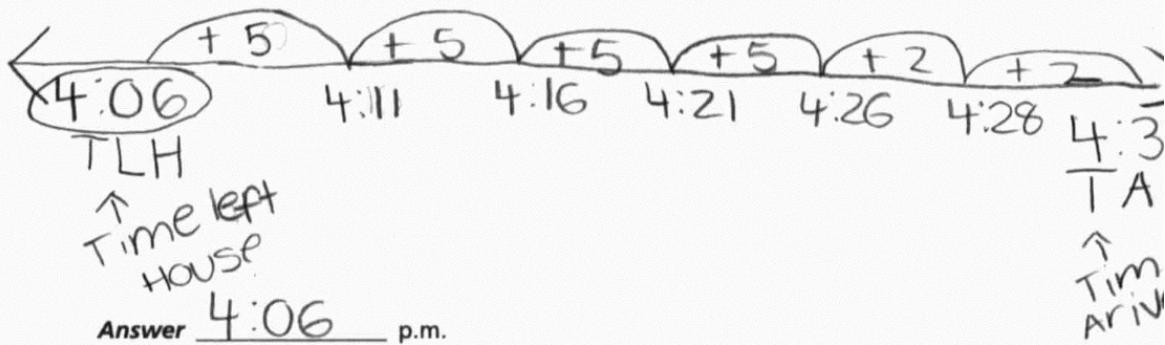
Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

Show your work.

$$\begin{array}{r}
 \text{↓ time she} \\
 \text{met friends} \\
 \text{↓ time it took} \\
 \text{her to walk from} \\
 \text{house to library} \\
 \text{Plan: } 4:30 - 24 \\
 = \boxed{?}
 \end{array}$$

$$\begin{array}{r}
 4:30 - 10m = 4:20 \\
 4:20 - 10m = 4:10 \\
 4:10 - 2m = 4:08 \\
 4:08 - 2m = 4:06 \\
 \text{time Beth left} \\
 \text{her house}
 \end{array}$$

$$5+5+5+5+2+2 = 24 \quad \begin{array}{l} \text{time it took} \\ \text{her to walk to} \\ \text{library} \end{array}$$



**Score Point 2 (out of 2 points)**

This response demonstrates a thorough understanding of the mathematical concepts in the task. A correct procedure is followed to determine the time Beth left her house.

## GUIDE PAPER 4

34

Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

Show your work.

$$4:30 - 24 = 4:16$$

Answer

4:16

p.m.

### Score Point 1 (out of 2 points)

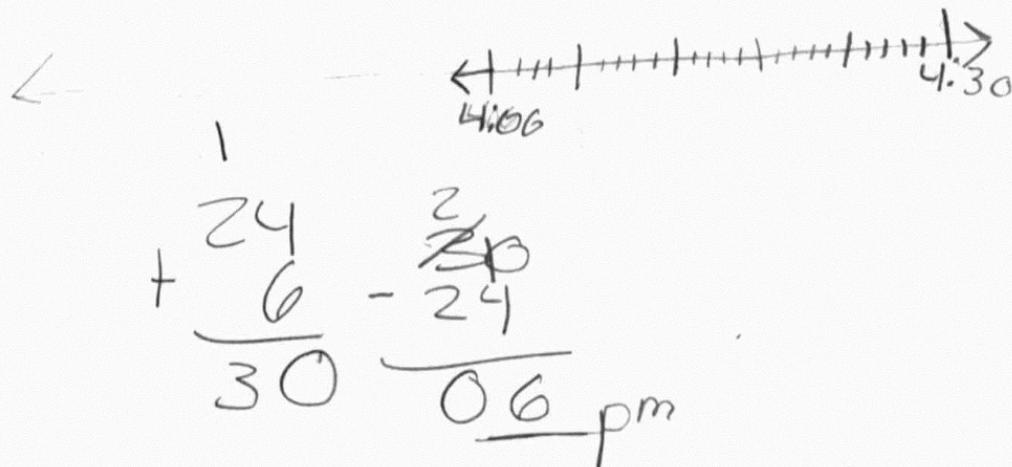
This response demonstrates only a partial understanding of the mathematical concepts in the task. Although a correct process is followed to find the start time, an error in subtraction results in an incorrect answer. The response correctly addresses only some elements of the task.

## GUIDE PAPER 5

34

Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

Show your work.



Beth Started walking  
at 6 pm

Answer 6 p.m.

### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Although a correct process is followed to find the start time, the answer is interpreted incorrectly. The response correctly addresses only some elements of the task.

## GUIDE PAPER 6

34

Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

Show your work.

$$30 - 24 = 14$$

Answer

4 14

p.m.

### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Although a correct process is followed to find the start time, an error in subtraction results in an incorrect answer. The response correctly addresses only some elements of the task.

## GUIDE PAPER 7

34

Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

Show your work.

$$4 + 30 = 34$$

Answer 34 p.m.

### Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The addition of 4 and 30 shows no understanding of the process.

# GUIDE PAPER 8

Additional

34

Beth met her friends at the library at 4:30 p.m. It took her 24 minutes to walk from her house to the library. What time did Beth leave her house to arrive at the library at exactly 4:30 p.m.?

Show your work.

24 minutes to get there.

Answer

4:06

p.m.

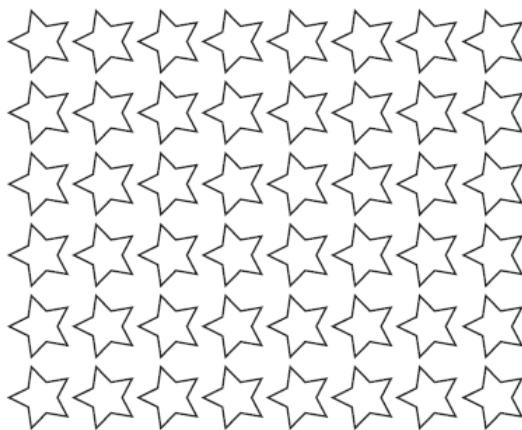
## Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. A correct answer is not supported by any work. The phrase “24 minutes to get there” is only a restatement of the prompt.

## EXEMPLARY RESPONSE

35

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

**Answer**

No, Ethan's model is incorrect. It shows the product of  $6 \times 8$ .

There are 6 rows of stars and 8 columns of stars in his model.

There are a total of  
 $6 \times 8 = 48$  stars shown.

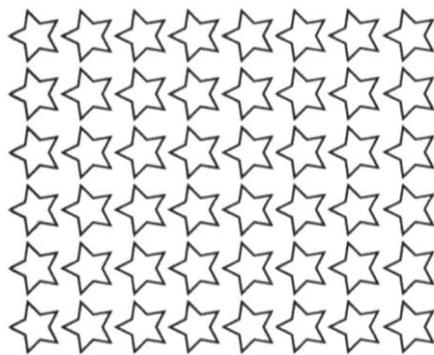
Or any other valid explanation.

# GUIDE PAPER 1

Additional

35

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

*Answer*

no Because it is  $8 \times 6$ .

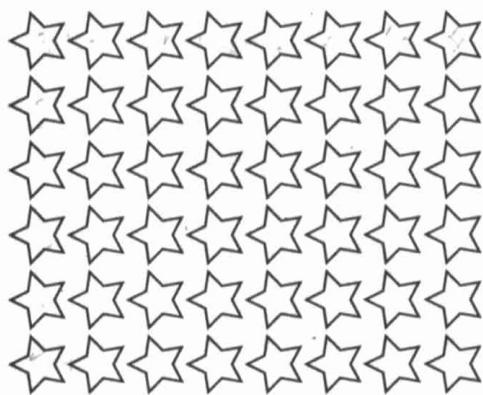
## Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The mistake is correctly identified and the explanation is complete and correct.

## GUIDE PAPER 2

35

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

**Answer**

No because his array  
shows  $6 \times 8$  and he  
can not get the answe  
frome that.

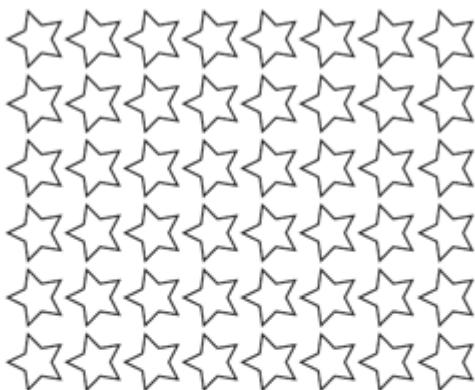
### Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The explanation correctly states Ethan's mistake and identifies the actual dimensions of the array.

## GUIDE PAPER 3

35

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

*Answer*

No ,beacause 6 is correct but 7 is not there is 8 insted of 7.

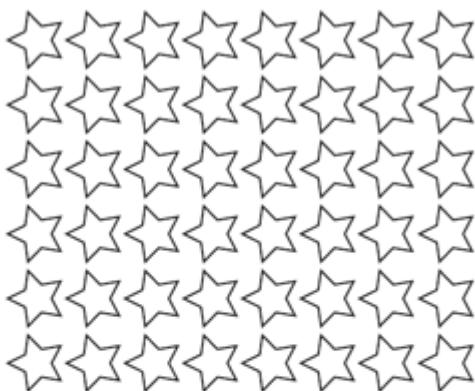
### Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The response correctly identifies which dimension of the array differs from representing the product of  $6 \times 7$ .

## GUIDE PAPER 4

35

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

*Answer*

no because The Top is all 8

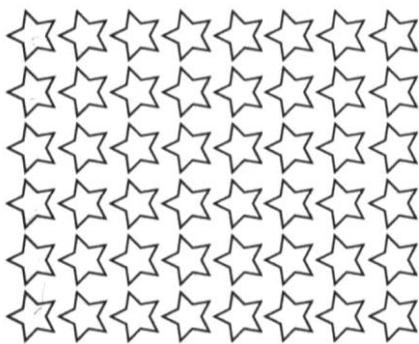
### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The correct answer is supported by an incomplete explanation. The response addresses only some elements of the task correctly.

## GUIDE PAPER 5

35

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

*Answer*

Ethan did not show the product of  $6 \times 7$   
because when I counted it. It showed  $8 \times 7$ .

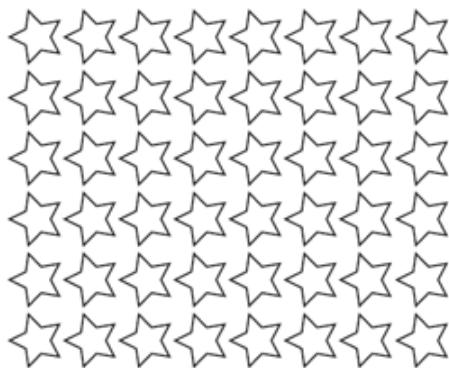
### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The answer is correct, but the explanation contains an error: the array does not represent  $8 \times 7$ . The response addresses only some elements of the task correctly.

# GUIDE PAPER 6

35

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

*Answer*

ON THE TOP IT HAS 8 INSTEAD OF 7.

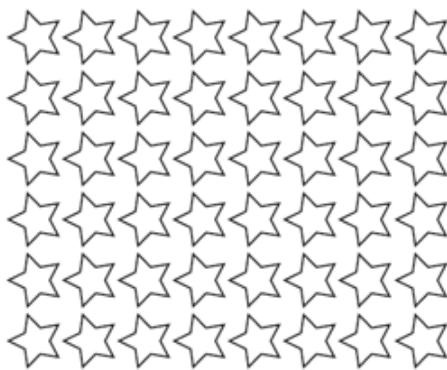
## Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The response suggests an error exists, but the explanation is incomplete and it does not indicate whether or not Ethan is correct. The response addresses only some elements of the task correctly.

# GUIDE PAPER 7

35

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

**Answer**

6x7=48 THERE IS 48 STARS IN ALL

## Score Point 0 (out of 2 points)

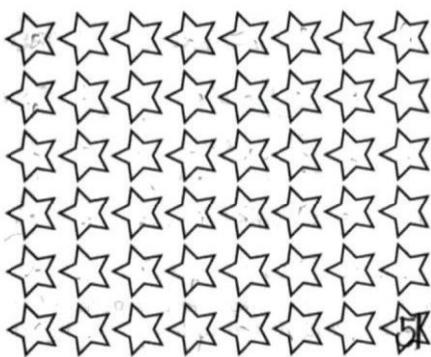
This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The explanation is irrelevant.

# GUIDE PAPER 8

Additional

35

Ethan made the array below to show the product of  $6 \times 7$ .



Does Ethan's model show the product of  $6 \times 7$ ? Explain why or why not.

*Answer*

NO Because the stars equal  
51 or 60 because he only  
Counted 36.

**Score Point 0 (out of 2 points)**

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

## EXEMPLARY RESPONSE

36

Two teachers each buy pizzas for a party. All of the pizzas are the same size.

- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

**Answer**

Teacher A's pizza slice is  $\frac{1}{6}$  of the pizza.

Teacher B's pizza slice is  $\frac{1}{8}$  of the pizza.

$\frac{1}{6}$  is greater than  $\frac{1}{8}$ , because fraction  $\frac{1}{6}$  has the same numerator as  $\frac{1}{8}$  but a smaller denominator than  $\frac{1}{8}$ .

Teacher A cut the pizza into larger slices.

Or any other valid explanation.

# GUIDE PAPER 1

Additional

36

Two teachers each buy pizzas for a party. All of the pizzas are the same size.

- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

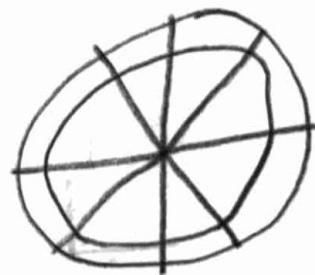
*Answer*

Teachers A's pizza has bigger slices because the slices for Teacher A are in sixes and the smaller the denominator the bigger the fraction.

A



B



## Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The response provides a correct answer supported by a correct explanation.

## GUIDE PAPER 2

36

Two teachers each buy pizzas for a party. All of the pizzas are the same size.

- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

**Answer**

Teacher A's pizza were cut into larger slices because since six is less than eight the sixths must be bigger pieces than the eighths so, Teacher A's pizza was cut into larger slices than Teacher B's pizza.

### Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The response provides a correct answer supported by a correct explanation.

## GUIDE PAPER 3

36

Two teachers each buy pizzas for a party. All of the pizzas are the same size.

- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

*Answer*

$$\frac{1}{8} < \frac{1}{6}$$

A's pizza is cut into larger slices

### Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The response provides a correct answer supported by a correct explanation.

## GUIDE PAPER 4

36

Two teachers each buy pizzas for a party. All of the pizzas are the same size.

- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

**Answer**

Teacher A's Pizza was  
larger cause it didn't have many  
pieces of pizza and the other one had  
a lot

### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The choice is correct but the explanation is not specific enough to show a thorough understanding of fractions. The response addresses only some elements of the task correctly.

## GUIDE PAPER 5

36

Two teachers each buy pizzas for a party. All of the pizzas are the same size.

- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

*Answer*

Teacher As pizza was bigger because less slices means bigger peaces.

### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The choice is correct; however, while the explanation “*less slices means bigger peaces*” shows some understanding of slice size, it does not refer to fractions. The response addresses only some elements of the task correctly.

## GUIDE PAPER 6

36

Two teachers each buy pizzas for a party. All of the pizzas are the same size.

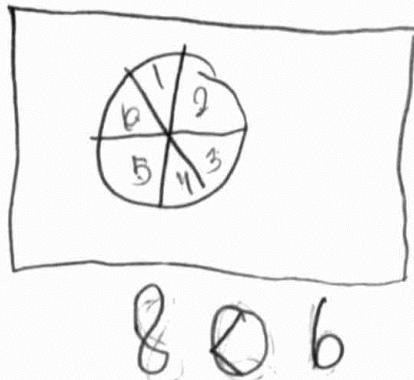
- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

**Answer**

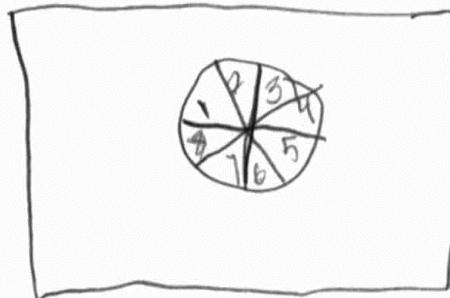
Teacher a's pizza is larger because the larger the larger the number the smaller the peice.

Teacher a



8 0 6

Teacher B



### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The explanation “*the larger the number the smaller the peice*” is not specific enough to show a thorough understanding of fractions. The response addresses only some elements of the task correctly.

## GUIDE PAPER 7

36

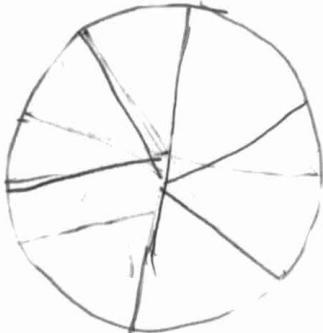
Two teachers each buy pizzas for a party. All of the pizzas are the same size.

- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

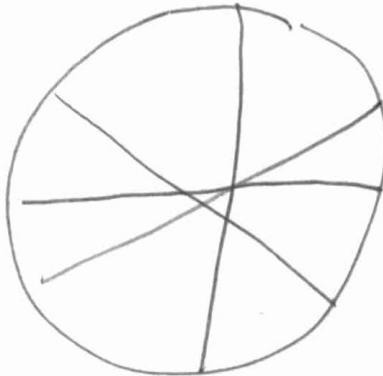
Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

**Answer**

Teacher B's pizzas were cut  
into 8 equal slices.



$$\frac{3}{6}$$



$$\frac{8}{4}$$

**Score Point 0 (out of 2 points)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. An incorrect choice is made and the work shows incorrect fractions.

# GUIDE PAPER 8

Additional

36

Two teachers each buy pizzas for a party. All of the pizzas are the same size.

- Teacher A's pizzas were cut into 6 equal slices.
- Teacher B's pizzas were cut into 8 equal slices.

Which teacher's pizzas were cut into larger slices? Use what you know about fractions to explain your answer.

**Answer**

$$\frac{6}{6} > \frac{8}{8}$$

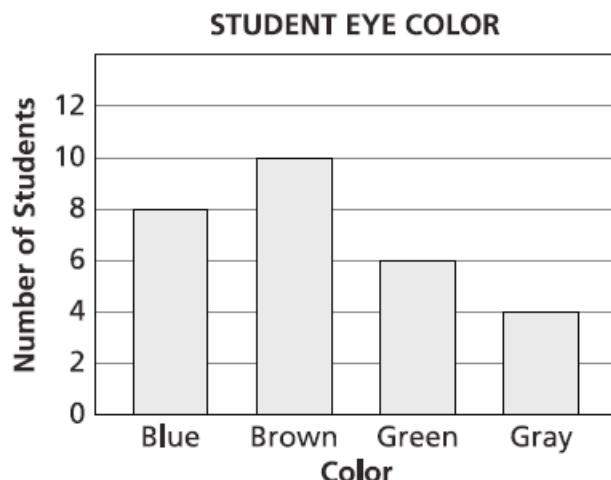
## Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The fractions written represent wholes and the comparison is incorrect.

## EXEMPLARY RESPONSE

37

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.



How many **fewer** students have green eyes than students that have blue eyes and brown eyes combined?

*Show your work.*

Students with blue and brown eyes

$$8 + 10 = 18$$

Students with green eyes = 6

$18 - 6 = 12$  fewer students have green eyes.

Or any other valid process.

**Answer** \_\_\_\_\_ fewer students

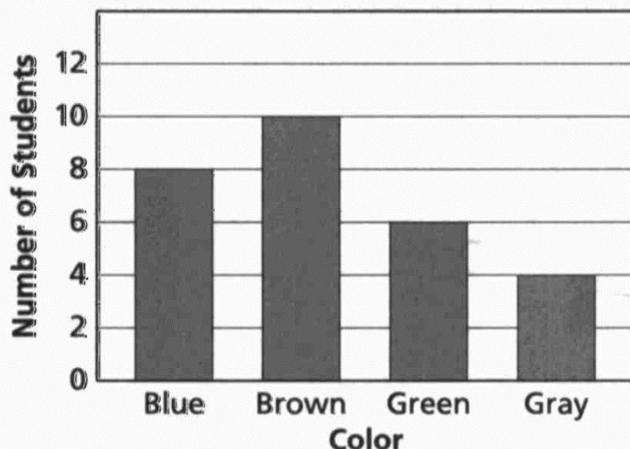
# GUIDE PAPER 1

Additional

37

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.

STUDENT EYE COLOR



How many **fewer** students have green eyes than students that have blue eyes and brown eyes combined?

Show your work.

$$\begin{array}{r} 10 + 8 = 18 \\ - 6 \\ \hline 12 \end{array}$$

Answer 12 fewer students

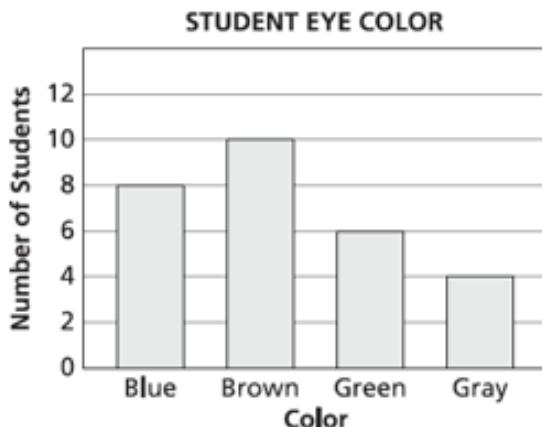
## Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The correct answer is determined using mathematically sound procedures.

## GUIDE PAPER 2

37

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.



How many **fewer** students have green eyes than students that have blue eyes and brown eyes combined?

*Show your work.*

$$10 + 8 = 18$$
$$18 - 6 = 12$$

i got 12 because i did  $10 + 8$  and got 18 then  $18 - 6$  because there is 18 together as blue AND brown is 18 and there is 6 green

Answer

12

fewer students

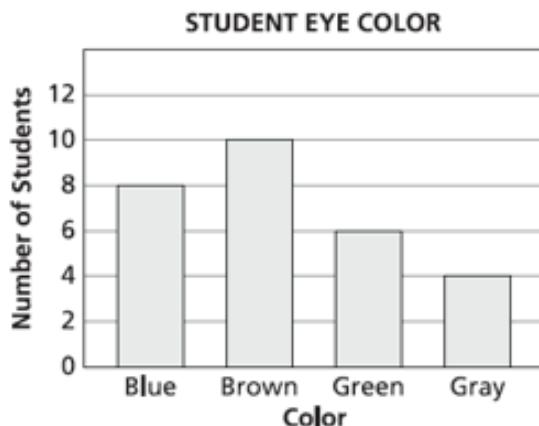
### Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The correct answer is determined using mathematically sound procedures.

# GUIDE PAPER 3

37

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.



How many **fewer** students have green eyes than students that have blue eyes and brown eyes combined?

Show your work.

$$\begin{aligned}(8 + 10) - 6 &= n \\ 18 - 6 &= n \\ &= 12\end{aligned}$$

Answer 12 fewer students

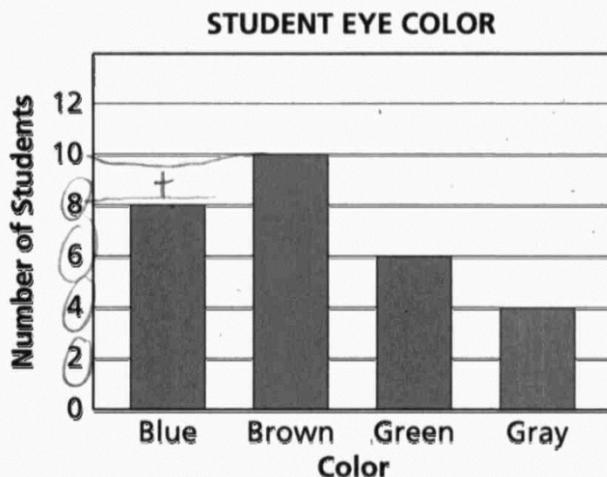
## Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The correct answer is determined using a valid equation.

# GUIDE PAPER 4

37

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.



How many **fewer** students have green eyes than students that have blue eyes and brown eyes combined?

Show your work.

$$\begin{array}{r} 18 \\ 8+10=18 \\ \hline 6-18 = -6 \\ \text{COUNT by 2} \\ \text{SO } 8+10=18 \end{array}$$

Answer 2 fewer students

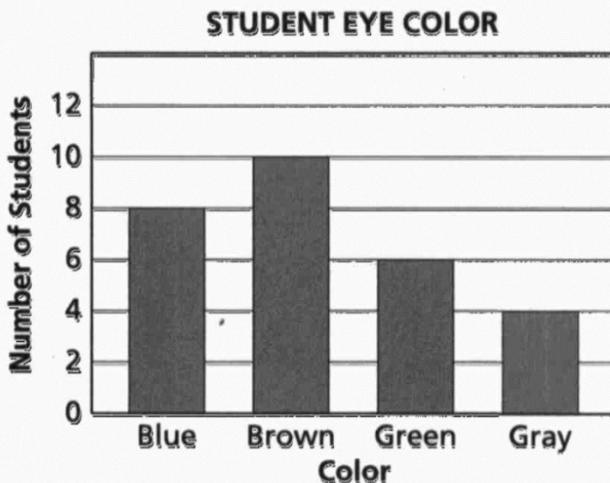
## Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The total number of blue-eyed and brown-eyed students is calculated correctly, but the difference between the blue-eyed/brown-eyed students and the green-eyed students is not adequately addressed. The response addresses only some elements of the task correctly.

## GUIDE PAPER 5

37

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.



How many **fewer** students have green eyes than students that have blue eyes and brown eyes combined?

*Show your work.*

$$\begin{array}{r} + 10 \\ 8 \\ \hline 18 \end{array}$$
  
$$\begin{array}{r} 16 \\ - 10 \\ \hline 6 \end{array}$$
  
$$24$$

Answer 24 fewer students

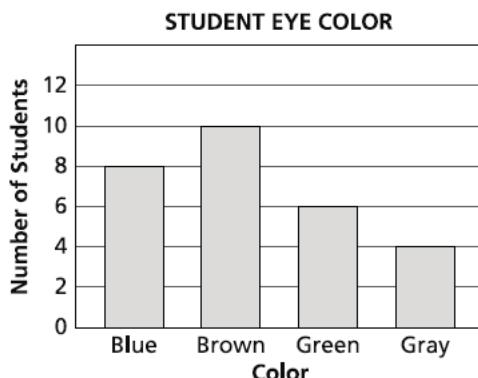
### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The total number of blue-eyed and brown-eyed students is calculated correctly, but the green-eyed students are mistakenly added instead of subtracted to produce an incorrect answer. The response addresses only some elements of the task correctly.

# GUIDE PAPER 6

37

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.



How many **fewer** students have green eyes than students that have blue eyes and brown eyes combined?

*Show your work.*

$$10+8=18. \quad 6-18=12$$

*Answer* 12 fewer students

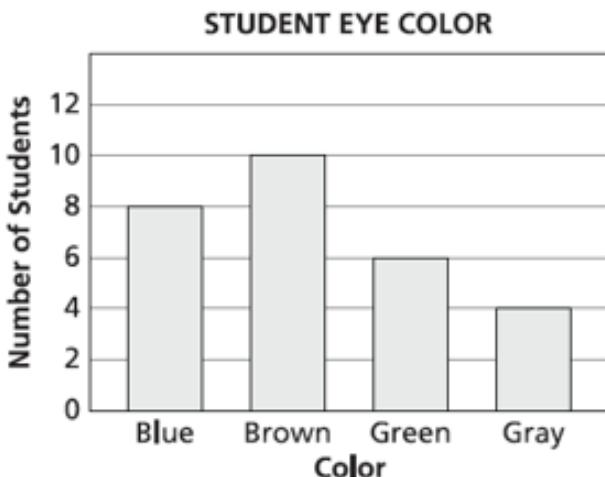
## Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The total number of blue-eyed and brown-eyed students is calculated correctly, but the subtraction of green-eyed students is written in the incorrect order. The response addresses only some elements of the task correctly.

## GUIDE PAPER 7

37

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.



How many fewer students have green eyes than students that have blue eyes and brown eyes combined?

*Show your work.*

$$18 - 6 = 3$$

Answer

3

fewer students

### Score Point 0 (out of 2 points)

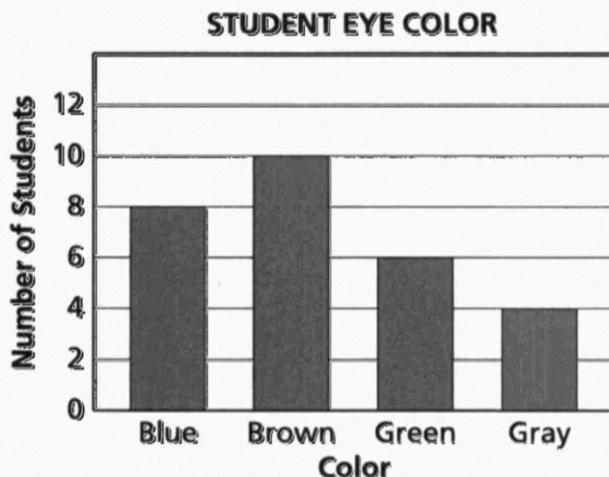
This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Holistically, the work provided in the response is not sufficient to show any understanding of the task.

# GUIDE PAPER 8

Additional

37

The bar graph below shows the information third grade students collected about the eye color of students in their classroom.



How many ~~fewer~~ students have green eyes than students that have blue eyes and brown eyes combined?

Show your work.

$$5+4=9-3=6$$

adding and subtraction

Answer 6 fewer students

**Score Point 0 (out of 2 points)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The work is unrelated to the data in the prompt and is not sufficient to show any understanding of the task.

## EXEMPLARY RESPONSE

38

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

*Show your work.*

$$8 \times 3 = 24 \text{ total number of tennis balls}$$

$$24 \div 6 = 4 \text{ tennis balls per player}$$

Each player will get 4 tennis balls.

Or any other valid process.

*Answer* \_\_\_\_\_ tennis balls

# GUIDE PAPER 1

Additional

38

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

**Show your work.**

$$8 \times 3 = 24$$

$$24 \div 6 = 4$$

**Answer** 4 tennis balls

## Score Point 2 (out of 2 points)

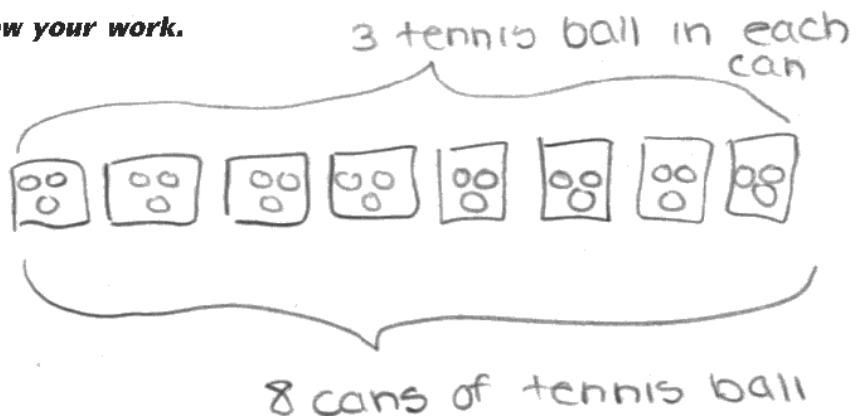
This response demonstrates a thorough understanding of the mathematical concepts in the task. The total number of tennis balls and the amount to distribute to each player are correctly calculated.

## GUIDE PAPER 2

38

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

Show your work.



$$8 \times 3 = 24 \div 6 = 4$$

cans in each can      \downarrow      \downarrow      Total of the balls      among 6 players

The answer of how many tennis ball each person get.

Answer 4 tennis balls

### Score Point 2 (out of 2 points)

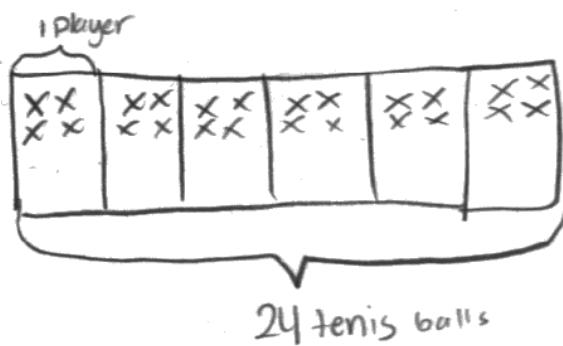
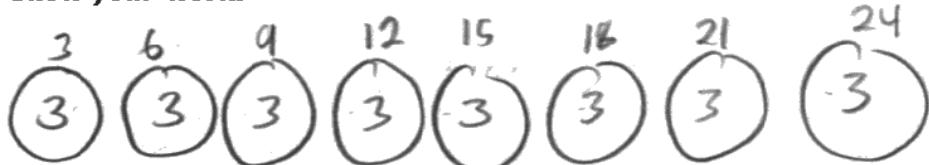
This response demonstrates a thorough understanding of the mathematical concepts in the task. The total number of tennis balls and the amount to distribute to each player are correctly calculated and explained.

## GUIDE PAPER 3

38

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

Show your work.



Each player will get 4 tennis balls.

Answer 4 tennis balls

### Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The total number of tennis balls and the amount to distribute to each player are correctly calculated and explained.

## GUIDE PAPER 4

38

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

Show your work.

$$\textcircled{2} \quad \textcircled{3} \quad \textcircled{3} \quad \textcircled{3} \quad \textcircled{2} \quad \textcircled{0}$$

$$\textcircled{3} \quad \textcircled{2} = 24$$

$$8 \times 3 = 24 \text{ tennis balls}$$

Answer \_\_\_\_\_ tennis balls

### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The total number of tennis balls is correctly calculated but it is not divided by the number of players. The response addresses only some elements of the task correctly.

## GUIDE PAPER 5

38

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

**Show your work.**

$$8 \times 3 = 24$$

$$24 + 6 = 30$$

**Answer** \_\_\_\_\_ tennis balls

### Score Point 1 (out of 2 points)

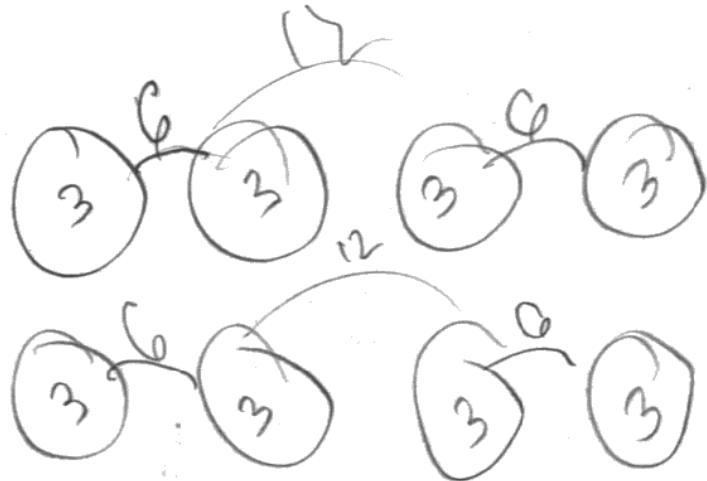
This response demonstrates only a partial understanding of the mathematical concepts in the task. The total number of tennis balls is correctly calculated; however, addition is used instead of division to determine an incorrect solution. The response addresses only some elements of the task correctly.

# GUIDE PAPER 6

38

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

**Show your work.**



$$\begin{array}{r} 12 \\ \times 2 \\ \hline 24 \end{array}$$
$$\begin{array}{r} 24 \\ \div 6 \\ \hline 4 \end{array}$$

**Answer**

2 tennis balls

## Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The total number of tennis balls is correctly calculated by repeated addition, but a calculation error during division results in an incorrect solution. The response addresses only some elements of the task correctly.

## GUIDE PAPER 7

38

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

Show your work.

$$\begin{array}{r} 8 \\ + 3 \\ \hline 11 \end{array} \quad \begin{array}{r} 8 \\ + 6 \\ \hline 14 \end{array}$$

$$\begin{array}{r} 14 \\ + 11 \\ \hline 25 \end{array}$$

each Player  
will get  
25 tennis  
balls.

Answer 25 tennis balls

**Score Point 0 (out of 2 points)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Adding the numbers given in the prompt does not show an understanding of the task.

# GUIDE PAPER 8

Additional

38

A tennis coach buys 8 cans of tennis balls. There are 3 tennis balls in each can. All of the tennis balls will be shared equally among 6 players. How many tennis balls will each player get?

**Show your work.**

$$\begin{array}{r} & 8 & 3 \\ & 6 & \\ + & 3 & \\ \hline & 1 & 7 \end{array}$$

**Answer** 17 tennis balls

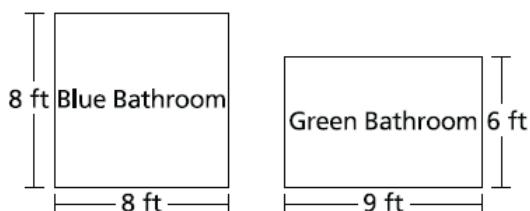
**Score Point 0 (out of 2 points)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Adding the numbers given in the prompt does not show an understanding of the task.

## EXEMPLARY RESPONSE

39

The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

*Explain your answer.*

No, Beth's statement is not correct.

The area of the blue bathroom is  
 $8 \times 8 = 64$  square feet.

The area of the green bathroom is  
 $9 \times 6 = 54$  square feet.

$64 > 54$ , so the area of the green bathroom is smaller than the area of the blue bathroom.

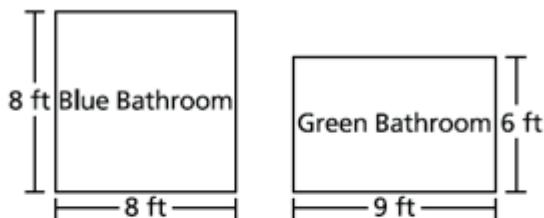
Or any other valid explanation.

# GUIDE PAPER 1

Additional

39

The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

*Explain your answer.*

$$9 \times 6 = 54$$
$$8 \times 8 = 64$$

Beth's statement is not true, because 64 is a larger than 54.

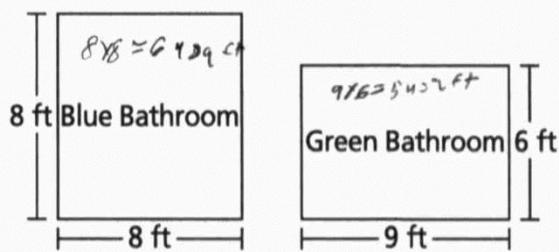
## Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The areas of each room are correctly calculated and the explanation is complete and correct.

## GUIDE PAPER 2

39

The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

*Explain your answer.*

Beth's statement is not true because  $64 - 54 = 10$ , so  
that's why Beth's statement is not true.

$$\begin{array}{r} 64 \\ - 54 \\ \hline 10 \text{ more sq ft} \end{array}$$

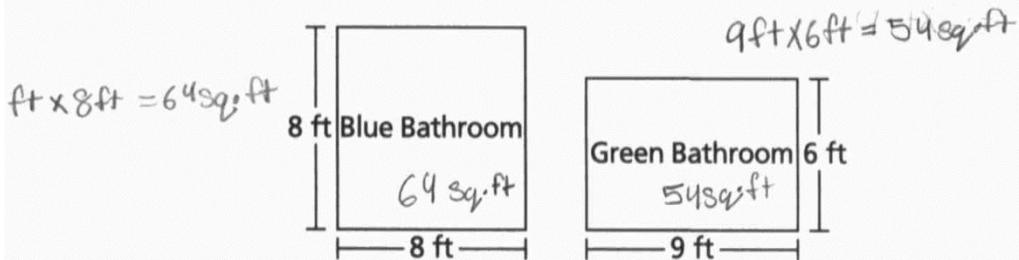
### Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The areas of each room are correctly calculated and the explanation is complete and correct.

## GUIDE PAPER 3

39

The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

*Explain your answer.*

*Beth's statement is not true because when you multiply the numbers together for the green bathroom you get the number 54 sq. ft but the Blue bathroom is 64 sq. ft So the Blue bathroom is greater than the green bathroom.*

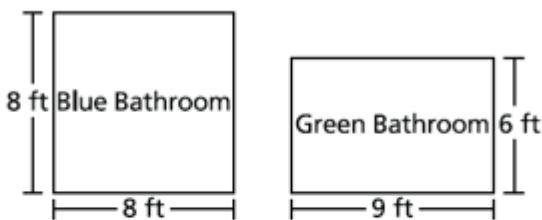
### Score Point 2 (out of 2 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The areas of each room are correctly calculated and the explanation is complete and correct.

## GUIDE PAPER 4

39

The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

*Explain your answer.*

$$8 \times 8 = 64$$

$$9 \times 6 = 55$$

beth statement is not true because green bathroom is 55

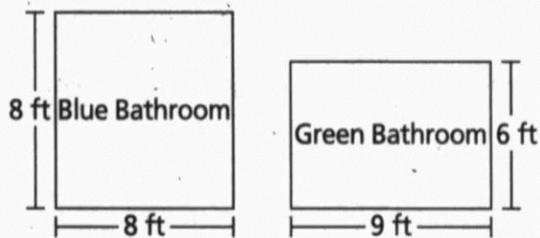
### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. Area is calculated mostly correctly and a correct answer is given. However, the question of “why or why not” is not addressed. The response addresses only some elements of the task correctly.

## GUIDE PAPER 5

39

The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

Explain your answer.

Beth was wrong because she didn't multiplication  
and add properly.

$$8 \times 8 = 64$$

Blue

↑  
yes it is

$$4 \times 9 = 36$$

$$\begin{array}{r} 4 \times 6 = 24 \\ \hline 60 \end{array}$$

the blue is greater than green.

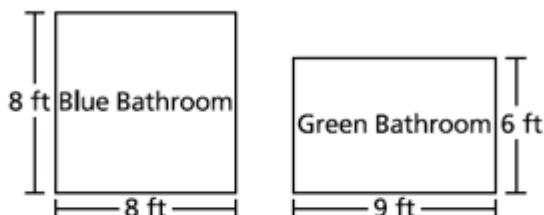
### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The area for the blue bathroom is calculated correctly. The area for the green bathroom is calculated using an incorrect process. The response addresses only some elements of the task correctly.

## GUIDE PAPER 6

39

The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

*Explain your answer.*

$$8 \times 8 = 64$$

$$9 \times 6 = 54$$

beths statement is true beacause 64 is 10 bigger than 54

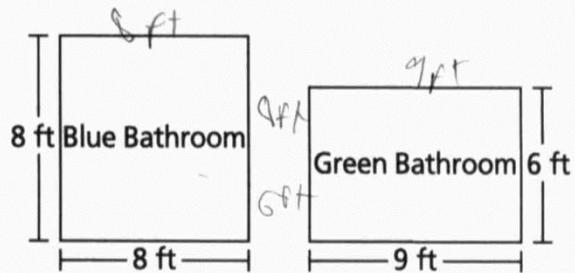
### Score Point 1 (out of 2 points)

This response demonstrates only a partial understanding of the mathematical concepts in the task. The areas of each bathroom are calculated and compared correctly; however, an incorrect answer is given. The response addresses only some elements of the task correctly.

# GUIDE PAPER 7

39

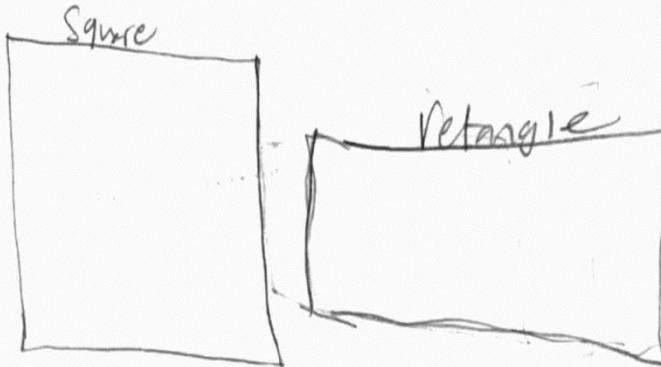
The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

Explain your answer.

I think that they both the same shape  
but just different sizes so I agree with  
Beth.



**Score Point 0 (out of 2 points)**

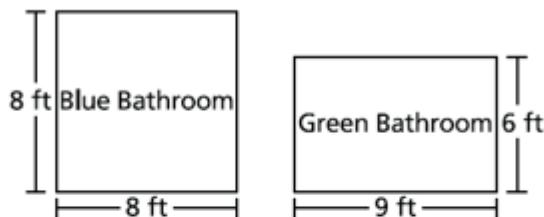
This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. A comparison of shapes does not address any elements of the task.

# GUIDE PAPER 8

Additional

39

The sizes of two bathroom floors in Beth's house are shown below.



Beth says that the area of the floor of the green bathroom is larger than the area of the floor of the blue bathroom. Is Beth's statement true? Why or why not?

*Explain your answer.*

$$8 + 8 = 16 \quad 9 + 6 = 15$$

## Score Point 0 (out of 2 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. Adding the numbers given in the prompt is not sufficient to show an understanding.

## EXEMPLARY RESPONSE

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

*Show your work.*

Total amount of green ribbon

$$4 \times 90 = 360 \text{ feet}$$

Total amount of purple ribbon

$$8 \times 60 = 480 \text{ feet}$$

The difference in ribbon length

$$480 - 360 = 120 \text{ feet}$$

Or any other valid process.

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

# GUIDE PAPER 1

Additional

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

Show your work.

$$\text{green ribbon-}4 \times 90 = 360\text{ft}$$

$$\text{purple ribbon-}8 \times 60 = 480\text{ft}$$

$$480\text{ft}$$

$$- 360\text{ft}$$

$$\overline{120\text{ft}}$$

Answer

120ft

feet

## Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The correct difference in ribbon length is determined using mathematically sound procedures.

## GUIDE PAPER 2

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

Show your work.

$$90 \times 4 = 360 \quad 60 \times 8 = 480 \quad 480 - 360 =$$

Answer

120

feet

### Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The correct difference in ribbon length is determined using mathematically sound procedures.

## GUIDE PAPER 3

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

Show your work.

$$90+90+90+90=360$$
$$60+60+60+60+60+60+60+60=480$$

$$480-360=120$$

Answer

120

feet

### Score Point 3 (out of 3 points)

This response demonstrates a thorough understanding of the mathematical concepts in the task. The response uses repeated addition to calculate the total length of each ribbon and correctly determines the ribbon length difference.

## GUIDE PAPER 4

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

Show your work.

$$4 \text{ TIMES } 90 = 360$$

$$400 - 360 = 40$$

$$8 \text{ TIMES } 60 = 400$$

Answer

40

feet

### Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The response uses mathematically sound processes, but a multiplication error results in an incorrect solution. The response addresses most, but not all aspects of the task correctly.

## GUIDE PAPER 5

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

Show your work.

$$90+90+90+90=360 \quad 60+60+60+60+60+60+60+60=480 \quad 480-360=120$$

the difference is they are 120 feet apart.

Answer

110

feet

### Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. Repeated addition is used to calculate the total length of each ribbon, but a calculation error results in an incorrect solution. The response addresses most, but not all aspects of the task correctly.

## GUIDE PAPER 6

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

Show your work.

360ft-480ft=120ft.

Answer

120

feet

### Score Point 2 (out of 3 points)

This response demonstrates a partial understanding of the mathematical concepts in the task. The total lengths of each ribbon are shown, but a reverse subtraction yielding the correct answer reflects some minor misunderstanding of the underlying mathematical concepts.

## GUIDE PAPER 7

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

*Show your work.*

th green ribbon is 90 feet and the purple ribbon is 60

*Answer*

30

feet

### Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The difference between the lengths of single rolls of green and purple ribbon is calculated instead of the difference between the total lengths. The response addresses some elements of the task correctly.

# GUIDE PAPER 8

Additional

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

Show your work.

$$4 \times 90 = 810$$

$$8 \times 60 = 480$$

the difference about the amounts of ribbon,  $810 + 480$  equals 1900

Answer

1900

feet

## Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The total length of purple ribbon is calculated correctly. A calculation error when calculating the total length of the green ribbon and the use of addition instead of subtraction result in an incorrect answer. The response addresses some elements of the task correctly.

## GUIDE PAPER 9

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

Show your work.

$$4 \times 90 = 360 \text{ feet}$$
$$8 \times 60 = 480 \text{ feet}$$

Answer

840

feet

### Score Point 1 (out of 3 points)

This response demonstrates only a limited understanding of the mathematical concepts in the task. The student calculates the total length of each ribbon correctly but a conceptual error is made when the two products are added. Per Scoring Policy #8, this response cannot receive more than 50% credit. The response addresses some elements of the task correctly.

## GUIDE PAPER 10

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

Show your work.

4 G ROLL	90F	$4+8=12$	$150+12=162$
8 P ROLL	60F	$90+60=150$	

Answer

162

feet

**Score Point 0 (out of 3 points)**

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. The work is unrelated to the task and the answer is incorrect.

# GUIDE PAPER 11

Additional

40

Edwin uses 4 rolls of green ribbon and 8 rolls of purple ribbon for a project.

- Each roll of green ribbon has a length of 90 feet.
- Each roll of purple ribbon has a length of 60 feet.

What is the difference in length, in feet, between the total amount of green ribbon and the total amount of purple ribbon Edwin uses?

*Show your work.*

(NO STUDENT RESPONSE GIVEN)

Answer

120

feet

## Score Point 0 (out of 3 points)

This response is not sufficient to demonstrate even a limited understanding of the mathematical concepts in the task. A correct answer is given without any work shown. Per Scoring Policy #3, this response cannot receive credit.