



# NEVADA INSTRUCTIONAL MATERIALS

FOR THE  
NEVADA ACADEMIC CONTENT STANDARDS FOR MATHEMATICS

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# Grade 3

TEACHER EDITION



# Scoring Support Materials

## Grade 3 Mathematics

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## **Introduction**

This document represents the Phase III release of Nevada Instructional Materials. These released materials were developed in collaboration with Nevada educators, the Nevada Department of Education, and WestEd (a nonprofit research development and service agency).

These materials are intended for use in various guided instructional activities to support deep understanding of the Nevada Academic Content Standards (NVACS) for English Language Arts and mathematics based on Common Core. The Nevada Instructional Materials provide educators opportunities to investigate and explore the standards and tasks that are aligned to the standards. The Nevada educators involved in the development of these materials also developed “Teacher Tips” to assist in using these materials as an instructional resource. The Nevada Instructional Materials also provide educators opportunities to investigate and explore the standards and tasks that are aligned to the standards.

While these materials can provide students with practice in responding to a variety of assessment items, it is more important that they are used to help students deepen their understanding of the expectations embedded in the standards. If these instructional materials are used solely as an assessment practice activity, we highly recommend that educators go over each item with their students and evaluate each answer choice so that students can better understand the knowledge required to successfully complete each task.

Through rich classroom discussion around each item and the various answer choices or potential responses, educators can actively engage students in critical thinking, reasoning, and application of knowledge and skills, helping to ensure all students are ready for success in the 21st century.



## Item Level Data

Item Number	NVACS*	DOK	Answers
1	3.OA.A1	1	B, D
2	3.OA.A2	1	D
3	3.OA.A2	1	-----
4	3.OA.A3	2	-----
5	3.OA.A4	1	A, D
6	3.OA.B5	1	A
7	3.OA.C7	1	A, C, E
8	3.OA.D8	2	-----
9	3.OA.D8	3	-----
10	3.OA.D9	2	B, D
11	3.NBT.A1	1	-----
12	3.NBT.A2	1	B
13	3.NBT.A2	1	A, B, E
14	3.NBT.A3	1	A
15	3.NBT.A3	1	A, D
16	3.NF.A1	1	B
17	3.NF.A2a	1	B
18	3.NF.A2b	1	-----
19	3.NF.A2b	2	-----
20	3.NF.A3a	1	D, E
21	3.NF.A3b	2	-----
22	3.NF.A3b	2	-----
23	3.NF.A3c	1	-----

Item Number	NVACS*	DOK	Answers
24	3.NF.A3d	2	-----
25	3.NF.A3d	3	-----
26	3.MD.A1	2	B, D, E
27	3.MD.A2	2	-----
28	3.MD.B3	2	B, C
29	3.MD.B3	3	-----
30	3.MD.B4	2	C, E
31	3.MD.B4	2	-----
32	3.MD.C5b	1	A, D, E
33	3.MD.C6	1	D
34	3.MD.C7a	1	-----
35	3.MD.C7b	1	C
36	3.MD.C7d	2	-----
37	3.MD.C7c	1	B, E
38	3.MD.D8	1	-----
39	3.MD.D8	3	-----
40	3.G.A1	1	C
41	3.G.A1	1	B, C
42	3.G.A1	3	-----
43	3.G.A2	1	A
44	3.G.A2	1	C, E, F
45	3.G.A2	2	-----

\*Nevada Academic Content Standards

**Detailed objectives for Content Standards and Depth of Knowledge (DOK) descriptions  
can be found on the Nevada Department of Education web site.**



# Scoring Guides and Student Response Examples by Score Point

## Grade 3 Mathematics

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.A1; M\_3.OA.B5**

**1**

Which phrases describe a situation in which the total number of pencils is equivalent to the value of  $8 \times 3$ ? Select **all** that apply.

- A** 3 groups of pencils with 24 pencils in each group
- B** 3 groups of pencils with 8 pencils in each group
- C** 8 groups of pencils with 24 pencils in each group
- D** 8 groups of pencils with 3 pencils in each group
- E** 24 groups of pencils with 3 pencils in each group
- F** 24 groups of pencils with 8 pencils in each group

**Scoring Notes:**

**Correct answers:** B, D

**Rationale A:** describes 72

**Rationale C:** describes 192

**Rationale E:** describes 72

**Rationale F:** describes 192

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.A2; M\_3.OA.A3**

**2**

There are 30 students in a dance class. The class is split into 6 groups of equal size to learn a new dance move. Which expression could be used to find the number of students in each group?

- A  $30 \times 5$
- B  $30 \times 6$
- C  $30 \div 5$
- D  $30 \div 6$

**Scoring Notes:**

**Rationale A:** incorrect operation; uses unknown factor

**Rationale B:** incorrect operation

**Rationale C:** uses unknown factor; would find number of groups given

**Rationale D:** correct

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.A2; M\_3.OA.A3**

**3**

Mary divided a number of crackers into equal-sized groups. She used the expression shown below to find the number of crackers in each group.

$$24 \div 4$$

Use the expression to complete the sentences below by writing a number in each blank.

Mary divided \_\_\_\_\_ crackers  
into \_\_\_\_\_ equal-sized groups.

There are \_\_\_\_\_ crackers in each group.

**Scoring Notes:**

24; 4; 6

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.A3; M\_3.OA.B6**

**4**

A store has 48 boxes of soccer balls.

- The boxes are placed into 6 rows.
- An equal number of boxes is placed in each row.

How many boxes are placed in each row? Explain your thinking.

Write your response on the grid below.

**Scoring Notes:**

For this item, a full-credit response (2 points) includes

- correct number of boxes, 8
- AND**
- an explanation identifying how the number of boxes was determined

For example,

- There are 48 boxes in 6 rows. Since 6 groups with 8 boxes in each group is 48, there are 8 boxes in each row.

For this item, a partial-credit response (1 point) includes

- correct number of boxes, 8
- OR**
- some explanation identifying how the number of boxes was determined

For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.A4**

**5**

In which equations is 9 the unknown number? Select **all** that apply.

**A**  $4 = 36 \div \underline{\quad}$

**B**  $18 = 3 \times \underline{\quad}$

**C**  $\underline{\quad} \times 5 = 40$

**D**  $\underline{\quad} \div 3 = 3$

**E**  $2 \times \underline{\quad} = 16$

**Scoring Notes:**

**Correct answers:** A, D

**Rationale B:** unknown number is 6

**Rationale C:** unknown number is 8

**Rationale E:** unknown number is 8

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.B5**

**6** Which expression has the same value as  $(7+6)\times 4$  ?

- A  $(7\times 4)+(6\times 4)$
- B  $(7\times 4)\times(6\times 4)$
- C  $(7+6)+(6\times 4)$
- D  $(7+6)\times(7+4)$

**Scoring Notes:**

**Rationale A:** correct

**Rationale B:** multiplies instead of adding

**Rationale C:** “reads” left to right, using 6 twice

**Rationale D:** keeps addition within parentheses; distributes 7 instead of 4

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.C7**

**7** Which equations are true? Select **all** that apply.

- A  $40 = 5 \times 8$
- B  $10 \times 0 = 10$
- C  $63 \div 7 = 1 \times 9$
- D  $6 \times 6 = 42$
- E  $6 \times 4 = 3 \times 8$

**Scoring Notes:**

**Correct answers:** A, C, E

**Rationale B:** thinks of  $10 \times 1$

**Rationale D:** thinks of  $6 \times 7$

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.D8**

- 8** Players on a sports team set a goal to score a total of 300 points during the 10 games they will play in a season. The team scored a total of 207 points during its first 7 games. The coach stated that the team needs to score about 30 points in **each** of the remaining 3 games to meet the goal.

Explain whether the coach's statement is reasonable or is not reasonable. Show your work or explain your thinking.

Write your response on the grid below.

**Scoring Notes:**

For this item, a full-credit response (2 points) includes

- correct work supporting why the coach's statement is reasonable
- OR**
- an explanation indicating why the coach's statement is reasonable

For example,

- $300 - 207 = 93$

$$93 \approx 90$$

$$30 + 30 + 30 = 90$$

**OR**

- Subtract 207 from 300 to get 93, which can be rounded down to 90. Then, add  $30 + 30 + 30$  for 30 points in each of the remaining 3 games, and get 90, which matches what the coach stated, so it is a reasonable statement.

For this item, a partial-credit response (1 point) includes

- some work supporting why the coach's statement is reasonable
- OR**
- some explanation indicating why the coach's statement is reasonable

For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.D8**

**9**

All the lockers in a school locker room are arranged in rows.

- There are 8 rows of lockers.
- Each row has 8 lockers.

Over the summer, some new lockers are added to the lockers that are already in the locker room. There are now 96 lockers in the locker room.

- A** Write and solve an equation that could be used to find the number ( $n$ ) of new lockers that are added to the locker room over the summer. Show your work.
- B** Explain why the total number of lockers in the locker room could still be arranged in 8 rows with an equal number of lockers in each row.

**Write your response on the grid on the next page.**

### Scoring Notes:

Score	Description
3	Student scores 3 points.
2	Student scores 2–2.5 points.
1	Student scores 0.5–1.5 points.
0	Student’s response provides insufficient evidence of appropriate skills or knowledge to successfully accomplish the task.
Blank	No student response.

### Score Points

<b>Part A:</b>	score 2.0 points	correct answer with correct and complete work
	<b>OR</b>	
	score 1.5 points	correct answer with partially correct or incomplete work
	<b>OR</b>	correct answer with incomplete equation
	<b>OR</b>	
	score 1.0 point	correct answer with no work or equation
	<b>OR</b>	incorrect answer due to a calculation error (work must be shown)
	<b>OR</b>	
	score 0.5 point	some correct procedure
<b>Part B:</b>	score 1.0 point	correct and complete explanation
	<b>OR</b>	
	score 0.5 point	partially correct or incomplete explanation
	<b>OR</b>	vague explanation only
	<b>OR</b>	some correct procedure

## Correct Answers

**Part A:** 32 (lockers)

$$8 \times 8 + n = 96$$

$$64 + n = 96$$

$$n = 32$$

**or equivalent work**

**Part B:** Accept all correct and complete explanations.

### **Sample Explanation:**

Before, there were 8 rows with 8 lockers in each row. Now, there could still be an equal number of lockers in each row because when 32 is divided by 8, the answer is 4, with no remainder. So 4 of the 32 lockers could be added to each of the 8 rows.

OR

Before, there were 8 rows with 8 lockers in each row. Now, there could still be an equal number of lockers in each row because when 96 is divided by 8, the answer is 12, with no remainder. Because  $12 - 8 = 4$ , 4 more lockers could be added to each of the 8 rows.

**No 3-point responses**









**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.OA.D9**

**10**

Look at the multiplication table shown below.

$\times$	4
1	4
2	8
3	12
4	16
5	20
6	24

Which statements about the product of any whole number and 4 are true? Select **all** that apply.

- A The product will always be an odd number.
- B The product will always be an even number.
- C The product will never be evenly divided by 3 .
- D The product will always be evenly divided by 4 .
- E The product will never be evenly divided by 10 .

**Scoring Notes:**

**Correct answers:** B, D

**Rationale A:** some whole numbers are odd, but not products

**Rationale C:** thinks this is true because 4 is not evenly divisible by 3

**Rationale E:** thinks this is true because 10 is not evenly divisible by 4

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NBT.A1**

**11**

What is 1,237 rounded to the nearest 10 ?

\_\_\_\_\_

What is 1,237 rounded to the nearest 100 ?

\_\_\_\_\_

**Scoring Notes:**

1,240 and 1,200

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NBT.A2**

**12**

Subtract:

$$798 - 409$$

- A 381
- B 389
- C 391
- D 399

**Scoring Notes:**

**Rationale A:** renames the 10s place in 798 but does not add the 10 to the 8 in 798

**Rationale B:** correct

**Rationale C:**  $700 - 400 = 300$  ,  $90 - 0 = 90$  ,  $9 - 8 = 1$

**Rationale D:** subtracts as if regrouping but does not rename the 10s place in 798

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NBT.A2**

**13** Which expressions are equal to 860 ? Select all that apply.

- A  $606 + 254$
- B  $981 - 121$
- C  $726 - 134$
- D  $200 + 600 + 10 + 50 + 6 + 4$
- E  $300 + 500 + 40 + 10 + 6 + 4$

**Scoring Notes:**

**Correct answers:** A, B, E

**Rationale C:** adds instead of subtracting

**Rationale D:** does not regroup from ones to tens place

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NBT.A3**

**14** What is  $60 \times 8$  ?

- A 480
- B 488
- C 608
- D 680

**Scoring Notes:**

**Rationale A:** correct

**Rationale B:** multiplies  $6 \times 8$ , then adds 8 to end of product instead of 0

**Rationale C:** moves all digits together instead of multiplying

**Rationale D:** adds  $60 + 8$ , then adds 0 to end of product

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NBT.A3; M\_3.OA.B5**

**15** Which expressions have the same value as  $4 \times 40$ ? Select **all** that apply.

**A**  $2 \times 80$

**B**  $5 \times 30$

**C**  $6 \times 10$

**D**  $40 \times 4$

**E**  $50 \times 3$

**Scoring Notes:**

**Correct answers:** A, D

**Rationale B:** changes values of digits  $\pm 1$  and thinks it is equivalent

**Rationale C:** knows  $4 \times 4$  is 16 and sees digits 1 and 6

**Rationale E:** changes values of digits  $\pm 1$  and thinks it is equivalent

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A1**

**16**

Which of these **best** describes a model of the fraction  $\frac{2}{3}$  ?

- A A square is divided into 2 parts of equal size. Then, 1 part is shaded and 1 part remains unshaded.
- B A square is divided into 3 parts of equal size. Then, 2 parts are shaded and 1 part remains unshaded.
- C A square is divided into 2 parts of equal size. Then, none of the parts are shaded.
- D A square is divided into 3 parts of equal size. Then, all 3 of the parts are shaded.

**Scoring Notes:**

**Rationale A:** models  $\frac{1}{2}$  ; thinks 2 identifies numerator, and 3 numbers are used in statements

**Rationale B:** correct

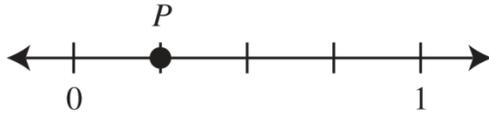
**Rationale C:** models zero; thinks 2 identifies numerator

**Rationale D:** models one; statements use 3 two times

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A2a**

**17**

Point  $P$  is shown on the number line below.



Which fraction is described by the location of point  $P$  on the number line?

- A  $\frac{1}{5}$
- B  $\frac{1}{4}$
- C  $\frac{1}{3}$
- D  $\frac{1}{2}$

**Scoring Notes:**

**Rationale A:** counts 5 tick marks on number line

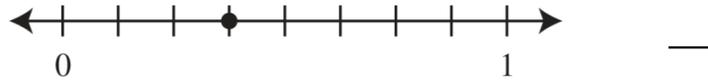
**Rationale B:** correct

**Rationale C:** first of 3 tick marks between 0 and 1

**Rationale D:** first tick mark after 0; 2 after it before 1

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A2b**

**18** A point is graphed on each number line below. Using the fraction bars next to the number lines, write the fraction that **best** describes the location of the point on **each** number line.



**Scoring Notes:**

$\frac{2}{3}, \frac{3}{8}, \frac{3}{4}$

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A2b**

**19**

Copy the number line below onto the grid below.



Graph a point on the number line to show the location of  $\frac{5}{6}$ . Explain how you know that the point you graphed is located at  $\frac{5}{6}$ .

Write your response on the grid below.

**Scoring Notes:**

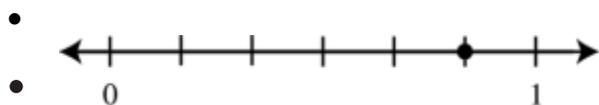
For this item, a full-credit response (2 points) includes

- a graphed point on the number line showing the location of  $\frac{5}{6}$

**AND**

- an explanation indicating how the student knows that the point graphed is located at  $\frac{5}{6}$

For example,



**AND**

- I used the grid and made the distance between each pair of tick marks equal to one-sixth the distance between 0 and 1. Since there are 5 lengths between 0 and the point I graphed, I know it is graphed at  $\frac{5}{6}$ .

For this item, a partial-credit response (1 point) includes

- a graphed point on the number line showing the location of  $\frac{5}{6}$

**OR**

- graphed point  $\frac{5}{6}$  in an incorrect location on the number line with a correct explanation indicating how the student knows that the point graphed is located at  $\frac{5}{6}$

**OR**

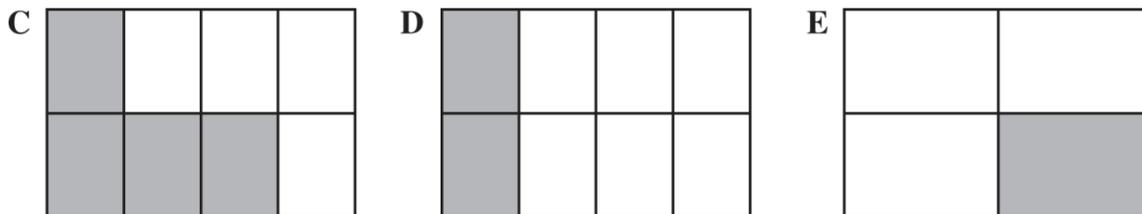
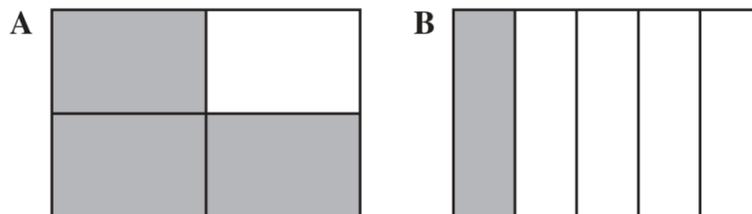
- some explanation indicating how the student knows that a point is located at  $\frac{5}{6}$

For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A3a**

**20**

Lucy shaded  $\frac{1}{4}$  of a rectangle. Which rectangles shown below are shaded to model an equivalent fraction? Circle **all** that apply.



**Scoring Notes:**

**Correct answers:** D, E

**Rationale A:**  $\frac{1}{4}$  unshaded

**Rationale B:** 1 section shaded, but not of 4

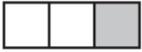
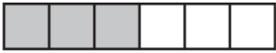
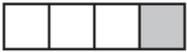
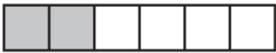
**Rationale C:** 4 sections shaded

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A3b**

**21**

Each rectangle below is shaded to model a fraction. Is the modeled fraction equivalent to  $\frac{1}{3}$  ?

Select yes or no for **each** rectangle.

- |          |   |                          |     |                          |    |
|----------|---|--------------------------|-----|--------------------------|----|
| <b>A</b> |  | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| <b>B</b> |  | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| <b>C</b> |  | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |
| <b>D</b> |  | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No |

**Scoring Notes:**

**Yes:** A, D

**No:** B, C

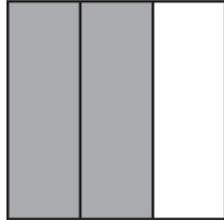
**Rationale B:** 3 sections shaded/3 sections unshaded

**Rationale C:** 1 section shaded/3 sections unshaded

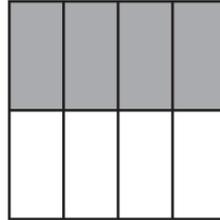
**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A3b**

**22**

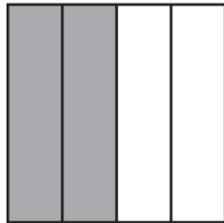
Four squares of equal size are shown below. Each square is divided into parts of equal size, and is shaded to model a fraction.



Square A



Square B



Square C



Square D

Circle **all** the squares for which the fraction modeled is equivalent. Explain why the squares you circled model equivalent fractions.

Write your response on the grid below.

**Scoring Notes:**

For this item, a full-credit response (2 points) includes

- square B and square C circled
- AND**
- an explanation indicating why square B and square C model equivalent fractions

For example,

- Both square B and square C show half of the square shaded. They are equivalent because  $\frac{4}{8} = \frac{2}{4}$ .

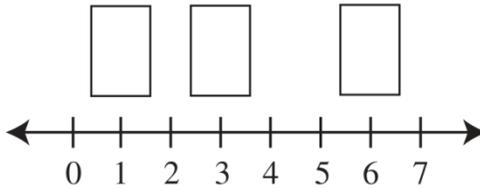
For this item, a partial-credit response (1 point) includes

- square B and square C circled
- OR**
- some explanation indicating why square B and square C model equivalent fractions

For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A3c**

**23** A number line is shown below.

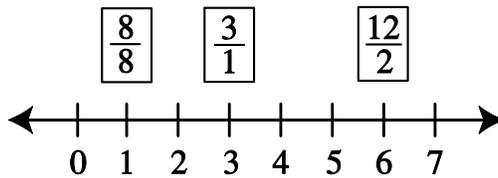


Each fraction listed below is equivalent to a whole number on the number line.

$$\frac{3}{1} \quad \frac{8}{8} \quad \frac{12}{2}$$

Write each fraction in the correct box above the equivalent whole number on the number line.

**Scoring Notes:**



**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A3d; M\_3.NF.A3a**

**24**

Jack measured the lengths of 3 beetles.

- The length of the 1st beetle is  $\frac{3}{8}$  inch.
- The length of the 2nd beetle is  $\frac{7}{8}$  inch.
- The length, in inches, of the 3rd beetle is greater than the length of the 1st beetle but less than the length of the 2nd beetle.

The incomplete number sentences below compare the lengths of the 1st beetle and the 2nd beetle to the length of the 3rd beetle.

$$\frac{3}{8} < \frac{3}{\square}$$
$$\frac{\square}{8} < \frac{7}{8}$$

Complete the number sentences by writing a number in each box so that **both** number sentences show the length of the 3rd beetle.

**Scoring Notes:**

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

$$\frac{\square 6}{8} < \frac{7}{8}$$

**OR**

$$\frac{3}{8} < \frac{3}{\square 6}$$

$$\frac{\square 4}{8} < \frac{7}{8}$$

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.NF.A3d**

**25**

Three friends each bought a sandwich to eat.

- Allie’s sandwich and José’s sandwich were exactly the same size.
  - Kyle’s sandwich was a different size than his friends’ sandwiches.
  - Allie ate  $\frac{1}{2}$  of her sandwich.
  - José ate  $\frac{1}{3}$  of his sandwich.
  - Kyle ate  $\frac{1}{2}$  of his sandwich.
- A** Write a number sentence comparing the fraction of sandwich Allie ate to the fraction of sandwich José ate. Use the symbols  $<$ ,  $=$ , or  $>$  to compare the fractions. Explain how you know your answer is correct.
- B** Explain why it is **not** possible that Allie and Kyle ate an equal amount even though they both ate  $\frac{1}{2}$  of their sandwiches. Also, explain why it is **not** possible to tell whether Allie or Kyle ate a larger amount.

**Write your response on the grid on the next page.**

### Scoring Notes:

Score	Description
<b>3</b>	Student scores 3 points.
<b>2</b>	Student scores 2–2.5 points.
<b>1</b>	Student scores 0.5–1.5 points.
<b>0</b>	Student’s response provides insufficient evidence of appropriate skills or knowledge to successfully accomplish the task.
<b>Blank</b>	No student response.

### Score Points

<b>Part A:</b>	score 1.5 points	correct answer with correct and complete explanation
	<b>OR</b>	
	score 1.0 point	correct answer with partially correct or incomplete explanation
<b>OR</b>		
	score 0.5 point	correct answer with no explanation
	<b>OR</b>	partially correct or incomplete explanation
	<b>OR</b>	some correct procedure
<b>Part B:</b>	score 1.5 points	two correct and complete explanations
	<b>OR</b>	
	score 1.0 point	one correct and complete explanation
<b>OR</b>		
	score 0.5 point	partially correct or incomplete explanation
<b>OR</b>		some correct procedure

## Correct Answers

**Part A:**  $\frac{1}{2} > \frac{1}{3}$

**Sample Explanation:**

My number sentence is correct because  $\frac{1}{2}$  means that a whole is divided into 2 equal sections.

$\frac{1}{3}$  means that a whole is divided into 3 equal sections. As long as the whole is the same size,

each one of the 2 sections will be bigger than each one of the 3 sections. So  $\frac{1}{2} > \frac{1}{3}$ .

**Note:** A student may compare  $\frac{3}{6}$  and  $\frac{2}{6}$  in number sentence and explanation and receive full credit.

**Part B:** Accept all correct and complete explanations.

**Sample Explanation:**

It is not possible because Kyle's sandwich was a different size and the halves can't be equal in size if the wholes are not equal in size. It is also not possible to tell who ate a larger amount because we don't know whether Kyle's sandwich was smaller or larger than Allie's sandwich.

Instructional Materials Question 25

A	$\frac{1}{2}$	$>$	$\frac{1}{3}$	Allie	ate	more	of		
				her	sandwich	than	Kyle's		
				sandwich	because	$\frac{1}{3}$	is	1 part	of 3
				parts	which	means	there	is	going to be
				more	part	to fill	in.	On	the other
				hand	$\frac{1}{2}$	is	half	of	the whole piece
				so	1	piece	will	make	it whole and
				for	$\frac{1}{3}$	2	more	pieces	will make it
				whole.	So	$\frac{1}{2}$	is	bigger.	
B	Well	in	the	clues,	Kyle's	sandwich	was	and	different
				size	than	Allie's	sandwich,	even	though
				they	both	are	half.	It	didn't
				say	if	Kyle's	sandwich	was	bigger
				or	smaller	so	we	can't	tell
				if	Kyle's	sandwich	is	bigger	or
				smaller.					

Score Point: 3

The response to Part A includes the correct answer with correct and complete explanation (1.5).

The response to Part B includes two correct and complete explanations (1.5).

Instructional Materials Question 25

A		$\frac{1}{2}$	$>$	$\frac{1}{3}$		one-half				one-third			
<p>Allie ate more than José. First, I drew two squares. After that, I split one square in half and the other into thirds. Next, I shaded one-third in one square and one-half in the other. I saw that one-half had more shaded than one-third. Allie ate more than José.</p>													
B	<p>It is not possible that Kyle and Allie ate the same amount. It is because Kyle had a different size sandwich. It is also not possible to know who ate more because we don't know whose sandwich was larger.</p>												

Score Point: 3

The response to Part A includes the correct answer with correct and complete explanation (1.5).

The response to Part B includes two correct and complete explanations (1.5).



Instructional Materials Question 25

**A**

$\frac{1}{2} > \frac{1}{3}$  My answer is correct because  $\frac{1}{3}$  is smaller than  $\frac{1}{2}$ .

Diagram

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

---

**B** Allie and Kyle can't have the same amount because they had different size sandwiches. It's not possible because they ate different size sandwiches.

Score Point: 2

The response to Part A includes the correct answer with correct and complete explanation (1.5).

The response to Part B includes one correct and complete explanation (1.0).

Instructional Materials Question 25

**A**  $\frac{1}{2} > \frac{1}{3}$

**B** It is not possible to tell whether Allie or Kyle ate a larger amount because I only said that Kyle ate a different amount than Allie and José.

Score Point: 1

The response to Part A includes the correct answer with no explanation (model not clear enough to demonstrate understanding of size of whole) (0.5). The response to Part B is incorrect (0).



**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.A1**

**26**

Which pairs of clocks show exactly 25 minutes from the start time to the stop time? Select **all** that apply.

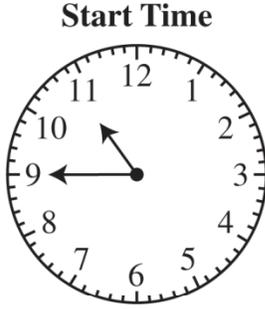
A



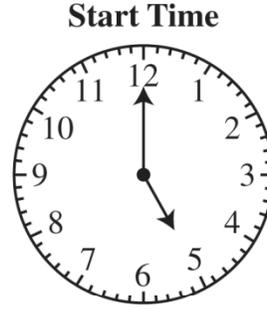
B



C



D



E



**Scoring Notes:**

**Correct answers:** B, D, E

**Rationale A:** 20 minutes elapsed

**Rationale C:** 1 hour 25 minutes elapsed

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.A2**

- 27** The mass of a box and all the new pencils in the box is 76 grams. There are 8 new pencils in the box. ESTIMATE the mass, in grams, of **each** new pencil in the box. Explain your thinking.

Write your response on the grid below.

**Scoring Notes:**

For this item, a full-credit response (2 points) includes

- correct estimate of the mass of each new pencil, 9 (grams)
- AND**
- an explanation indicating how the estimate was determined

For example,

- The mass of each pencil is probably 9 grams because 76 divided by 8 is between 9 and 10. If the mass of each pencil is 9 grams, then the total mass is 72 grams ( $9 \times 8 = 72$ ). This means the mass of the box could be 4 grams since  $76 - 72 = 4$ .
- OR**
- I rounded 76 to 80 and then divided by 8 to get a mass of 10 grams for each pencil. But the mass is probably 9 grams for each pencil because 80 is greater than 76 and 76 grams is the mass of all the pencils and the box too.

For this item, a partial-credit response (1 point) includes

- correct estimate of the mass of each new pencil, 9 (grams)
- OR**
- some explanation indicating how the estimate was determined

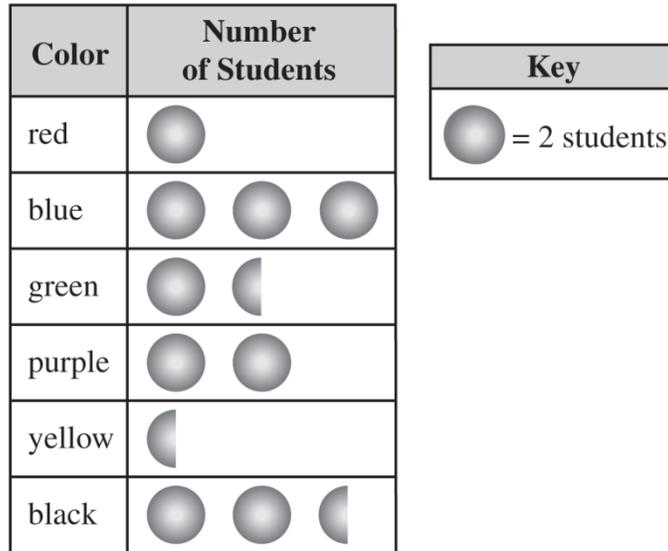
For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.B3**

**28**

Each student in a class named one color as his or her favorite. The pictograph below shows the number of students who named each of the different colors as his or her favorite.

**Favorite Color**



Which statements about the numbers of students who named favorite colors are true? Select **all** that apply.

- A** The number of students who named blue is the same as the total number of students who named red and green.
- B** The number of students who named black is the same as the total number of students who named purple and yellow.
- C** The number of students who named purple is 3 greater than the number of students who named yellow.
- D** The number of students who named green is 1 less than the number of students who named black.

**Scoring Notes:**

**Correct answers:** B, C

**Rationale A:** counts numbers of symbols, but doesn't account for half vs. whole

**Rationale D:** 1 less symbol, but doesn't use key

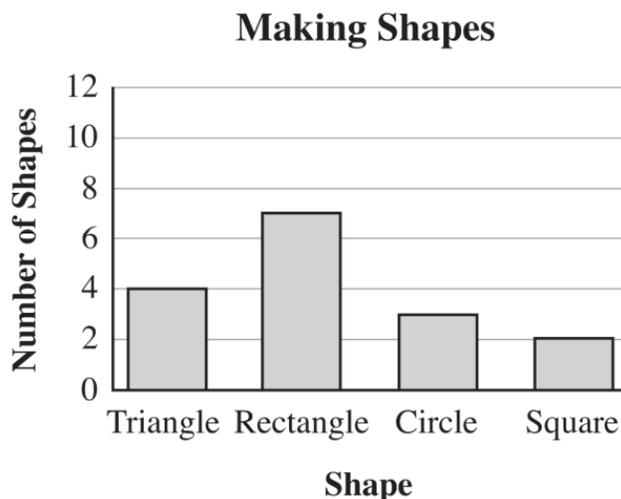
**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.B3; M\_3.NF.A3b**

**29**

Cody is making paper shapes. The number of each shape Cody has made is described below.

- He has made 4 triangles.
- He has made 7 rectangles.
- He has made 3 **more** circles than triangles.
- He has made 2 **fewer** squares than rectangles.

Cody draws the bar graph below to show the number of each shape he has made, but Cody's graph is incorrect.



- A** Explain why Cody's graph is incorrect. Using the grid on the next page, draw a correct bar graph to show the number of each shape Cody has made. Be sure to include all labels, a scale, and a title.
- B** Cody makes 1 more rectangle. He then says he has made  $\frac{1}{2}$  as many triangles as rectangles. Explain why Cody is correct.

**Write your response on the grid on the next page.**

**Scoring Notes:**

<b>Score</b>	<b>Description</b>
<b>3</b>	Student scores 3 points.
<b>2</b>	Student scores 2–2.75 points.
<b>1</b>	Student scores 0.25–1.75 points.
<b>0</b>	Student’s response provides insufficient evidence of appropriate skills or knowledge to successfully accomplish the task.
<b>Blank</b>	No student response.

**Score Points**

<b>Part A:</b>	score 2.0 points	correct bar graph (includes title, scale, and labels) with correct and complete explanation
		deduct 0.25 point for each incorrect bar, each missing label, missing title, and missing or incorrect scale
		deduct 1.0 point for missing explanation (maximum deduction 2.0 points)
	<b>OR</b>	
	score 1.5 points	correct bar graph with partially correct or incomplete explanation
		deduct 0.25 point for each incorrect bar, each missing label, missing title, and missing or incorrect scale
<b>Part B:</b>	score 1.0 point	correct and complete explanation
	<b>OR</b>	
	score 0.5 point	partially correct or incomplete explanation
	<b>OR</b>	
		vague explanation only

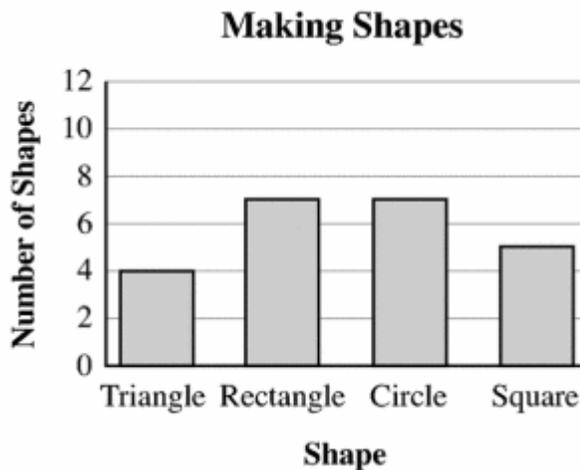
## Correct Answers

**Part A:** Accept all correct and complete explanations.

### Sample Explanation:

The bar heights for circles and squares are incorrect. For circles, he graphed 3 when he was supposed to add 3 to the number of triangles, 4, to get 7 circles. For squares, he graphed 2 when he was supposed to subtract 2 from the number of rectangles, 7, to get 5 squares.

AND



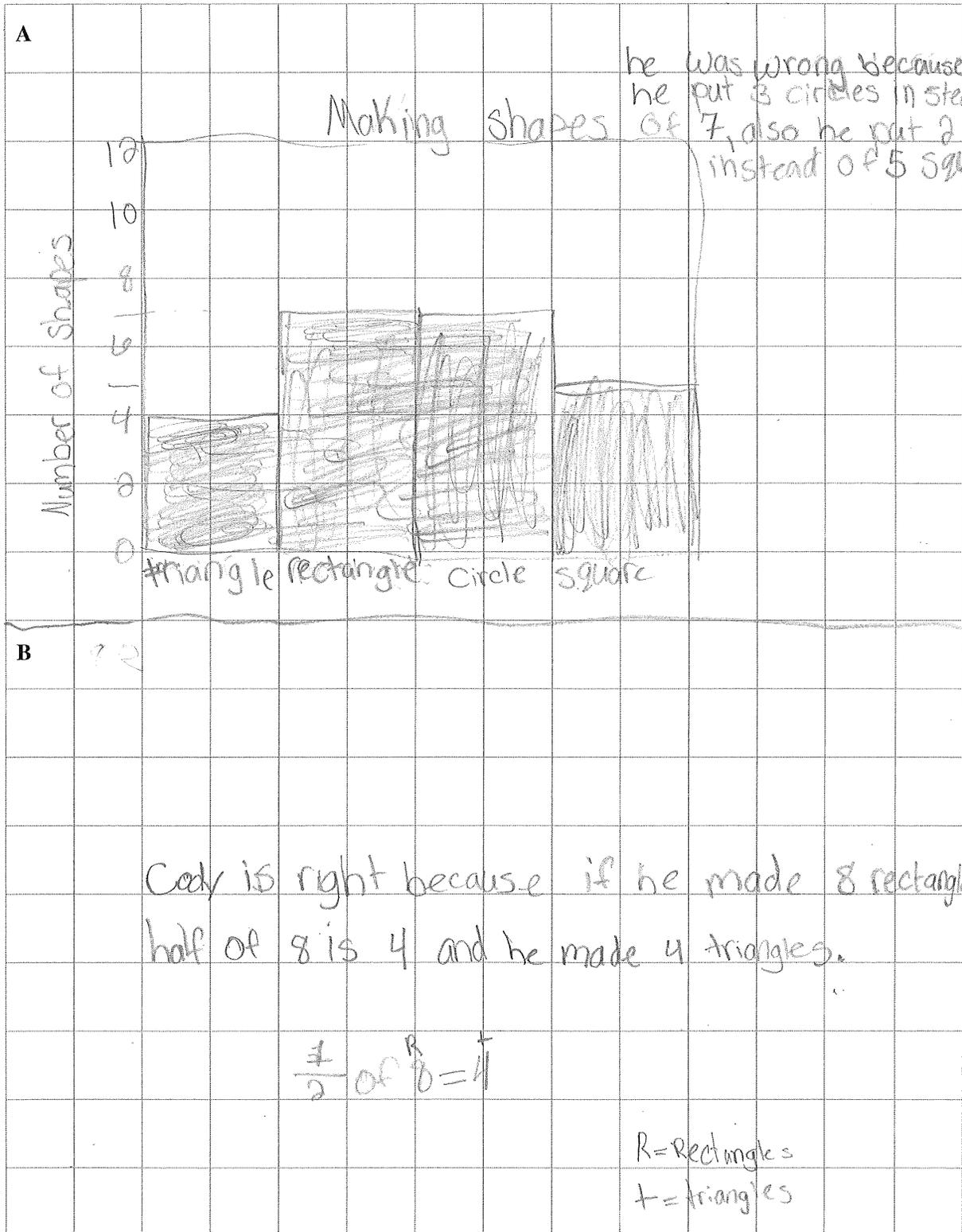
**Part B:** Accept all correct and complete explanations.

### Sample Explanation:

He is correct because Cody has made 4 triangles and has made  $7 + 1 = 8$  rectangles. Since  $\frac{4}{8} = \frac{1}{2}$ , the fractions are equivalent even though they have different numerators and denominators, so Cody is correct in saying he has made  $\frac{1}{2}$  as many triangles as rectangles.

**No 3-point responses**

Instructional Materials Question 29

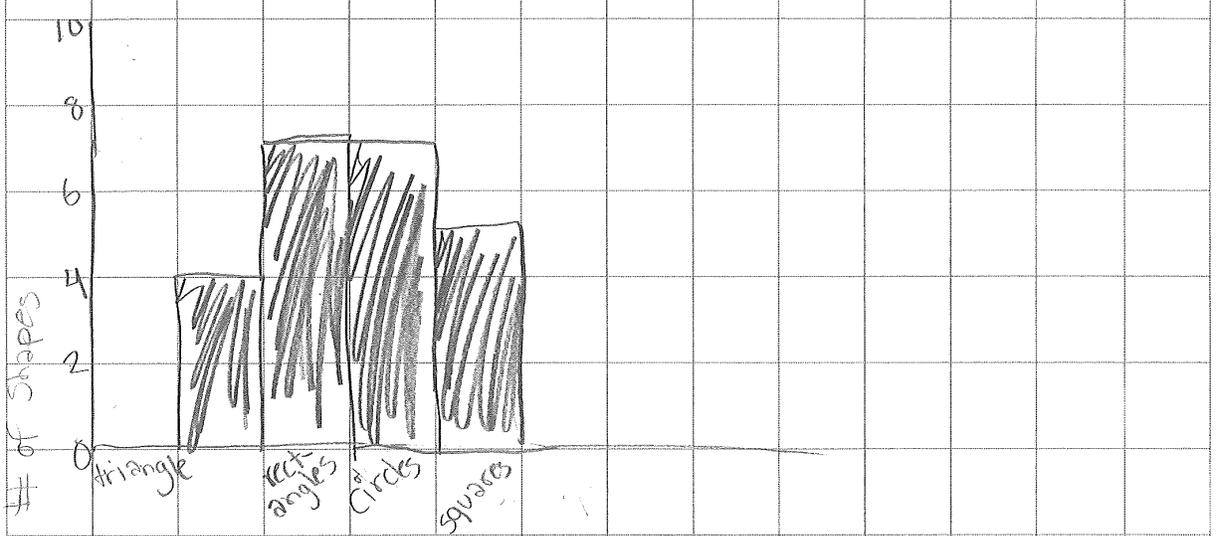


Score Point: 2

The response to Part A includes a correct bar graph, but missing horizontal label, with correct and complete explanation (1.75). The response to Part B includes a correct and complete explanation (1.0).

Instructional Materials Question 29

A Cody says he has 3 more circles than triangles, but he only put 3 circles. He did the same thing with the squares.

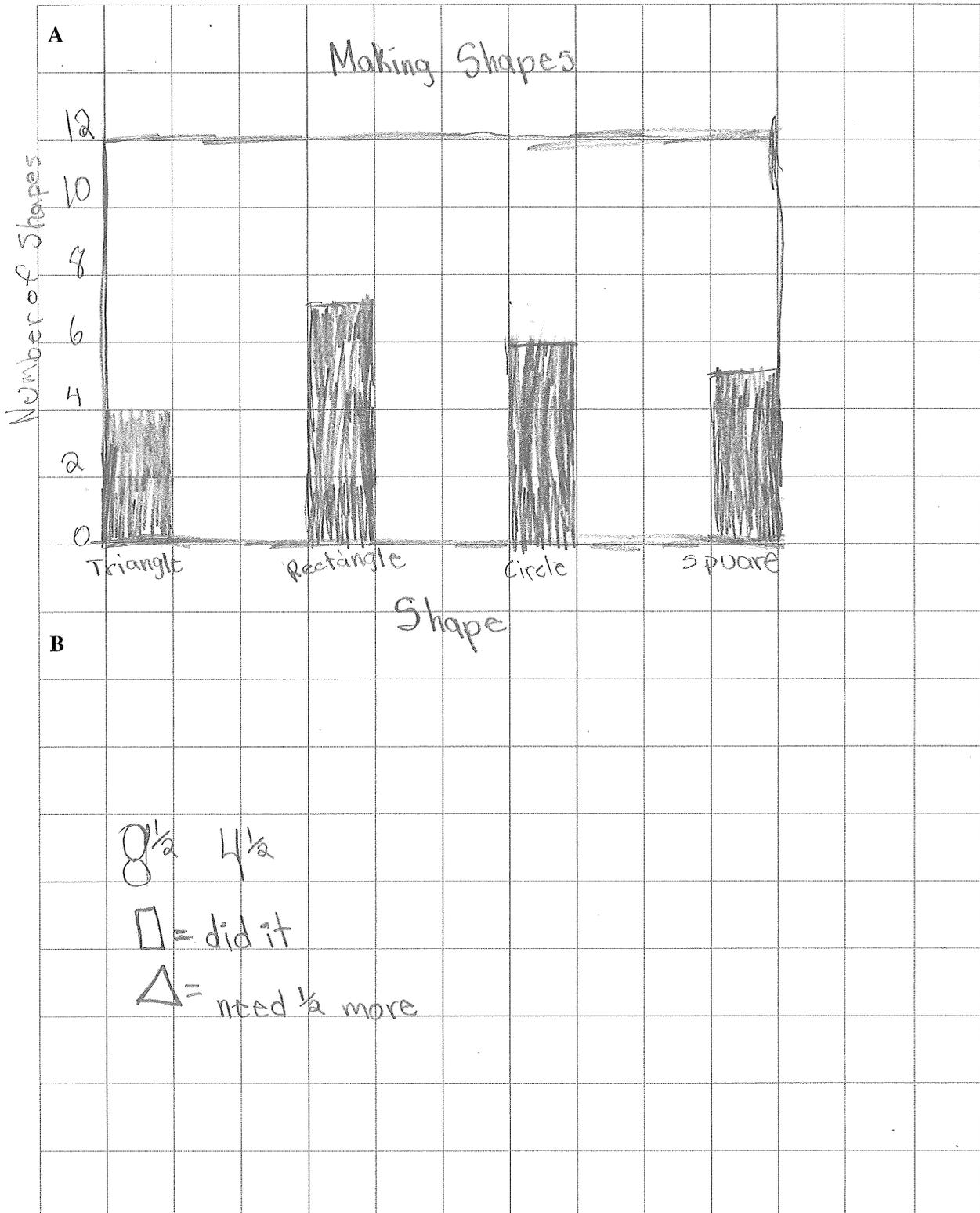


B Cody is correct because  $8/2=4$ .

Score Point: 2

The response to Part A includes a correct bar graph, but missing horizontal label and title, with an incomplete explanation (1.0). The response to Part B includes a correct and complete explanation (1.0).

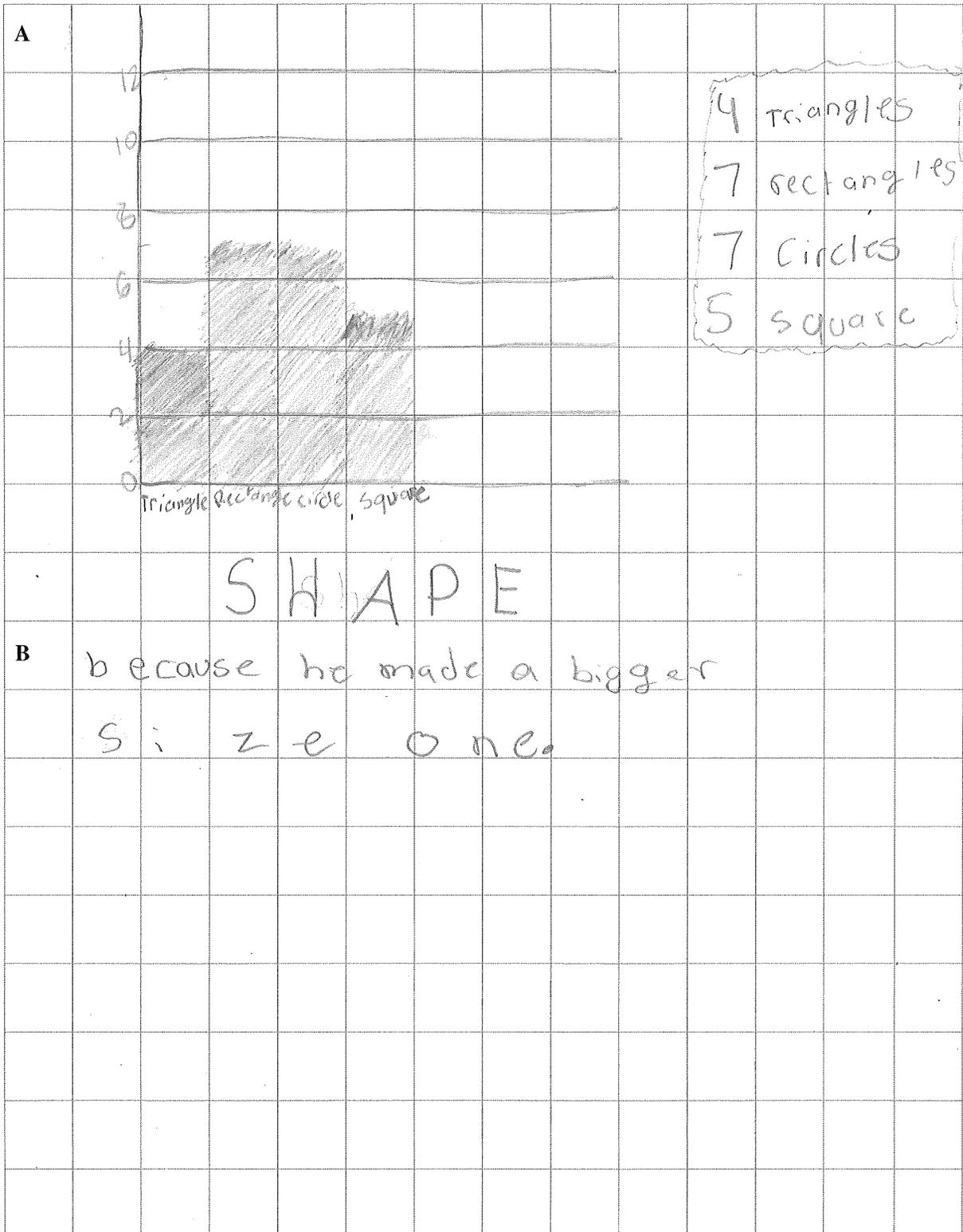
Instructional Materials Question 29



Score Point: 1

The response to Part A includes a partially correct bar graph (circle bar incorrect), with no explanation (0.75). The response to Part B is incorrect (0).

Instructional Materials Question 29



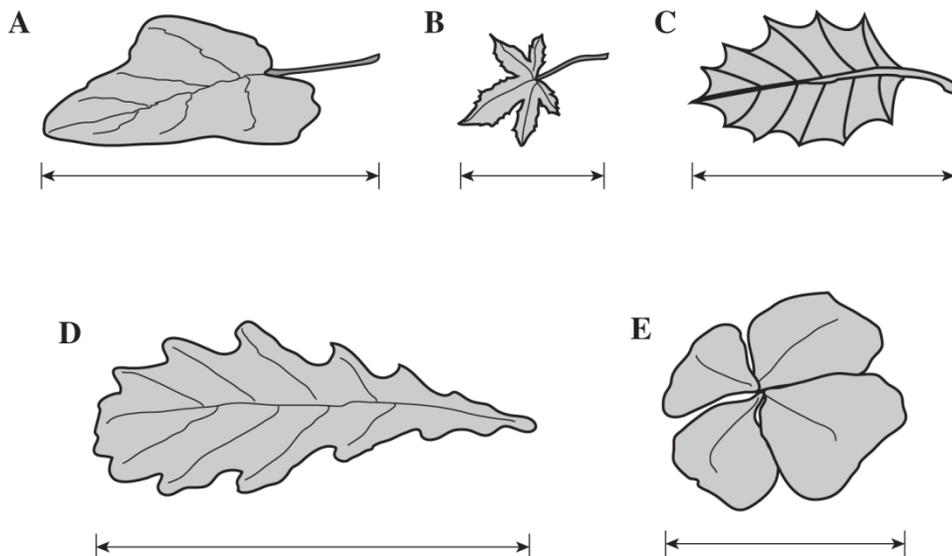
Score Point: 1

The response to Part A includes a correct bar graph, but missing vertical label and title, with no explanation (0.5). The response to Part B is incorrect (0).

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.B4**

**30**

Use your ruler to measure the lengths of the leaves below. Circle **each** leaf whose length measures between 1 inch and  $1\frac{1}{2}$  inches.



**Scoring Notes:**

**Correct answers:** C, E

**Rationale A:** between  $1\frac{1}{2}$  and 2 inches

**Rationale B:** between  $\frac{1}{2}$  and 1 inch

**Rationale D:** between 2 and  $2\frac{1}{2}$  inches

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.B4**

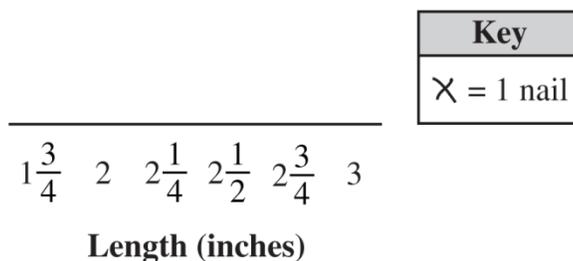
**31**

The lengths, in inches, of the nails in a tool box are listed below.

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

Complete the line plot below to show the number of nails of each length in the tool box.

**Nail Lengths**



**Scoring Notes:**

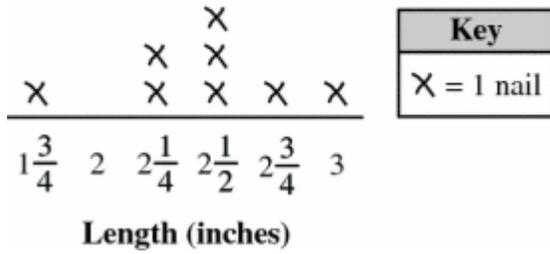
For this item, a full-credit response (2 points) includes

- a correctly completed line plot, 1 X above  $1\frac{3}{4}$ , 0 Xs above 2, 2 Xs above  $2\frac{1}{4}$ , 3 Xs above  $2\frac{1}{2}$ , 1 X above  $2\frac{3}{4}$ , and 1 X above 3

For example,

- 

### Nail Lengths



For this item, a partial-credit response (1 point) includes

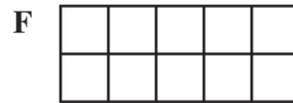
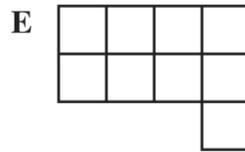
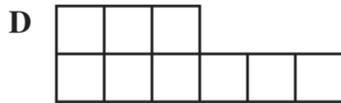
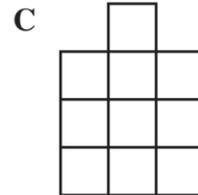
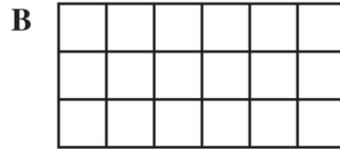
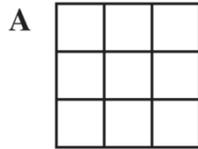
- 6 to 7 correctly placed data points (Xs)

For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.C5b**

**32**

The plane figures shown below are covered with unit squares. The unit squares completely cover the figures, without any gaps or overlaps. Circle **each** figure that has an area of exactly 9 square units.



**Scoring Notes:**

**Correct answers:** A, D, E

**Rationale B:** adds length and width

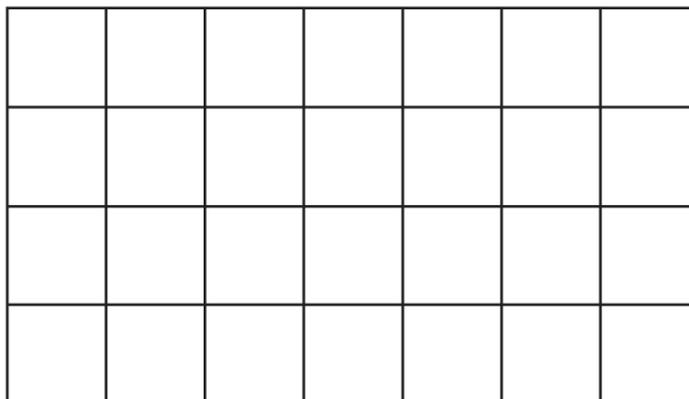
**Rationale C:** does not count additional square on top

**Rationale F:** miscounts number of squares

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.C6; M\_3.OA.A3**

**33**

Elena covered the top of a rectangular table with square tiles. All the tiles fit completely on top of the table and none of the tiles overlapped, as pictured below.



The area of each tile Elena used is 1 square foot. What is the total area of the top of the table?

- A 18 square feet
- B 22 square feet
- C 24 square feet
- D 28 square feet

**Scoring Notes:**

**Rationale A:** counted perimeter incorrectly (only counted corner squares once)

**Rationale B:** perimeter

**Rationale C:** counted height as 4, then multiplied by remaining 6 columns instead of all 7

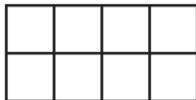
**Rationale D:** correct

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.C7a; M\_3.MD.C6**

**34**

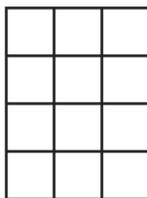
Look at the rectangles below. Each square tile represents 1 square unit. Is the area of each rectangle 12 square units? Select yes or no for **each** rectangle.

**A**



Yes     No

**B**



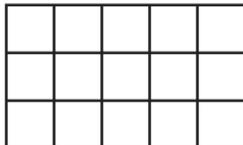
Yes     No

**C**



Yes     No

**D**



Yes     No

**Scoring Notes:**

**Yes:** B, C

**No:** A, D

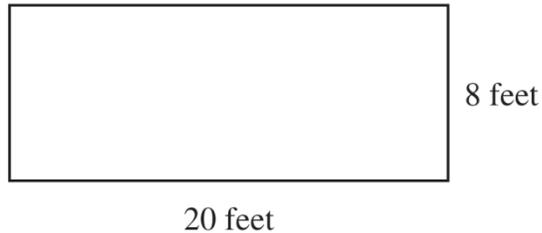
**Rationale A:** miscounts number of tiles

**Rationale D:** miscounts number of tiles

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.C7b; M\_3.NBT.A3**

**35**

The picture below shows the side lengths of a rectangular play space.



What is the area of the play space?

- A 28 square feet
- B 56 square feet
- C 160 square feet
- D 320 square feet

**Scoring Notes:**

**Rationale A:** adds  $8 + 20$

**Rationale B:** perimeter

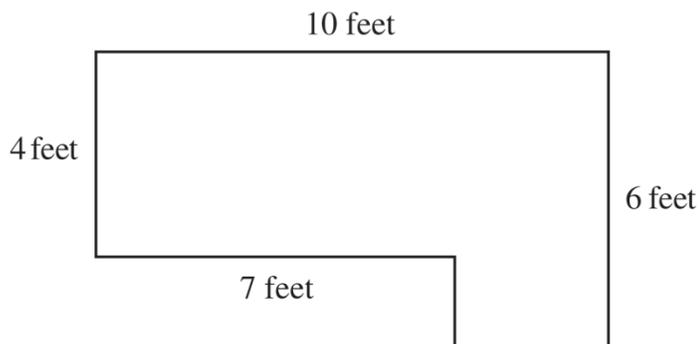
**Rationale C:** correct

**Rationale D:** doubles area

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.C7d**

**36**

The picture below shows the shape of a garden. The garden was formed by combining different rectangular areas.



What is the total area, in square feet, of the garden? Show your work or explain your thinking.

Write your response on the grid below.

**Scoring Notes:**

For this item, a full-credit response (2 points) includes

- correct area of the garden, 46 (square feet)
- AND**
- correct work showing how the area was determined
- OR**
- an explanation indicating how the area was determined

For example,

- $7 \times 4 = 28$   
 $3 \times 6 = 18$   
 $28 + 18 = 46$

**OR**

- The picture can be broken apart into two rectangular areas. One rectangle is 7 feet by 4 feet, or 28 square feet. The other rectangle is 3 feet (because  $10 - 7 = 3$ ) by 6 feet, or 18 square feet. To find the total area of the garden, add these two areas.  $28 + 18 = 46$ .

For this item, a partial-credit response (1 point) includes

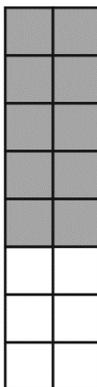
- correct area of the garden, 46 (square feet)
- OR**
- incorrect answer due to a calculation error (work must be shown)
- OR**
- some explanation indicating how the area was determined

For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.C7c**

**37**

A rectangle is divided into unit squares. Some of the unit squares are shaded, as shown in the picture below.



Which expressions could be used to find the area, in square units, of the entire rectangle? Select **all** that apply.

**A**  $(5 \times 3) + (5 \times 2)$

**B**  $(5 \times 2) + (3 \times 2)$

**C**  $(5 + 3 + 2) \times 2$

**D**  $5 \times 3 \times 2$

**E**  $(5 + 3) \times 2$

**F**  $5 \times 2$

**Scoring Notes:**

**Correct answers:** B, E

**Rationale A:** misapplies distributive property

**Rationale C:** misapplies distributive property

**Rationale D:** multiplies 5 and 3 instead of adding

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.D8**

**38**

The perimeter of a rectangle is 104 inches. Could the pairs of measurements below be possible lengths and widths of the rectangle? Select yes or no for **each** pair of measurements.

- |          |                         |                              |                             |
|----------|-------------------------|------------------------------|-----------------------------|
| <b>A</b> | 18 inches and 34 inches | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>B</b> | 4 inches and 26 inches  | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>C</b> | 34 inches and 70 inches | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>D</b> | 36 inches and 68 inches | <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| <b>E</b> | 21 inches and 31 inches | <input type="checkbox"/> Yes | <input type="checkbox"/> No |

**Scoring Notes:**

**Yes:** A, E

**No:** B, C, D

**Rationale B:**  $\frac{104}{4} = 26$

**Rationale C:**  $104 - 70 = 34$

**Rationale D:**  $104 - 68 = 36$

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.MD.D8**

**39**

A hexagon has a perimeter of 54 centimeters (cm). Each side of the hexagon has the same length.

- A** What is the length, in centimeters, of each side of the hexagon? Show your work or explain your thinking.
- B** Rectangle  $PQRS$  also has a perimeter of 54 cm. The width of rectangle  $PQRS$  is equal to the length of each side of the hexagon.

Rectangle  $WXYZ$  also has a perimeter of 54 cm, but has a different length and width than rectangle  $PQRS$ .

What are a possible length and width of rectangle  $WXYZ$ ? Explain your thinking.

**Write your response on the grid on the next page.**

## Scoring Notes:

Score	Description
<b>3</b>	Student scores 3 points.
<b>2</b>	Student scores 2–2.5 points.
<b>1</b>	Student scores 0.5–1.5 points.
<b>0</b>	Student’s response provides insufficient evidence of appropriate skills or knowledge to successfully accomplish the task.
<b>Blank</b>	No student response.

## Score Points

<b>Part A:</b>	score 1.5 points	correct answer with correct and complete work or explanation
	<b>OR</b>	
	score 1.0 point	correct answer with partially correct work or incomplete explanation
		<b>OR</b>
		incorrect answer due to a calculation error (work must be shown)
	<b>OR</b>	
	score 0.5 point	correct answer with no work or explanation
		<b>OR</b>
		partially correct or incomplete explanation
		<b>OR</b>
		some correct procedure
<b>Part B:</b>	score 1.5 points	correct answer (answers may vary) with correct and complete explanation
	<b>OR</b>	
	score 1.0 point	correct answer (answers may vary) with partially correct or incomplete explanation
	<b>OR</b>	
	score 0.5 point	correct answer (answers may vary) with no explanation
		<b>OR</b>
		partially correct or incomplete explanation
		<b>OR</b>
		some correct procedure

## Correct Answers

**Part A:** 9 (centimeters)

**Sample Work/Explanation:**

A hexagon has 6 sides. Each side is the same length and  $54 \div 6 = 9$ , so each side is 9 cm.

**Part B:** Answers may vary. Accept any length and width for rectangle  $WXYZ$  with a sum of 27 except 9 and 18.

**Sample Answer:**

The perimeter of rectangle  $PQRS$  is 54 cm, and the width is 9 cm since it is the same as a side of the hexagon. The perimeter is 2 times the length plus 2 times the width, so  $54 = 2L + 18$ ,  $36 = 2L$ , and  $18 = L$ . The length is 18 cm.

The length of rectangle  $WXYZ$  could be 20 and the width could be 7. This is possible because  $2L + 2W = \text{perimeter}$ , and  $2(20) + 2(7) = 40 + 14$ , which is equal to 54.

Instructional Materials Question 39

**A**

$$54 \div 6 = 9$$

The length of each side is nine centimeters. I knew a hexagon had six sides and the perimeter was fifty four, so I divided six into fifty four. My quotient was nine. So I knew each side was nine centimeters.

**B**

$$\begin{array}{r} 4 \\ 9 \overline{) 36} \\ \underline{36} \\ 0 \end{array}$$

$$\begin{array}{r} 20 \\ 2 \overline{) 40} \\ \underline{40} \\ 0 \end{array}$$

$$20 \div 2 = 10$$

I thought if I did seventeen plus seventeen it would equal thirty four, so I did it. Then, I knew if I added twenty it would be fifty four, but then I wouldn't have the width for the other side. So I divided twenty into two and got ten. Then, I labeled the width and length on the rectangle. (I made seventeen the length and ten the width).

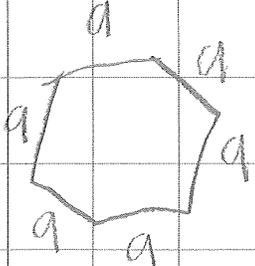
Score Point: 3

The response to Part A includes the correct answer with correct and complete explanation (1.5).

The response to Part B includes a correct answer with correct and complete explanation (1.5).

Instructional Materials Question 39

**A**



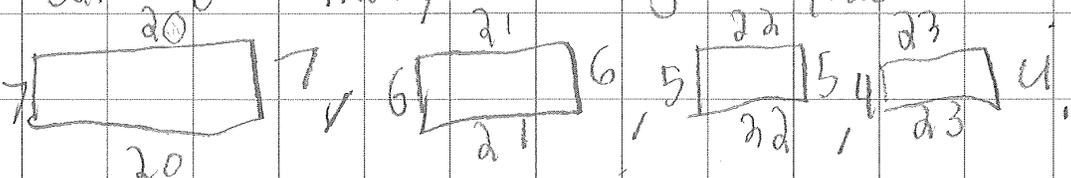
$9 \times 6 = 54 \text{ cm}$

In the clues it says each side of the hexagon has the same length and a hexagon has 6 sides. It said it has to equal 54 cm. Then I realized  $9 \times 6 = 54$  so I know each length has to be 9.

---

**B**

It is possible because WXYZ can be many rectangles like



Basically you can change the width lower by one and change the length higher by one and you can have not one same number for the length.

Score Point: 3

The response to Part A includes the correct answer with correct and complete explanation (1.5).

The response to Part B includes a correct answer with correct and complete explanation (1.5).

### Instructional Materials Question 39

**A**

6	5	4
-	5	4
0		

**B**

PQRS

WXYZ

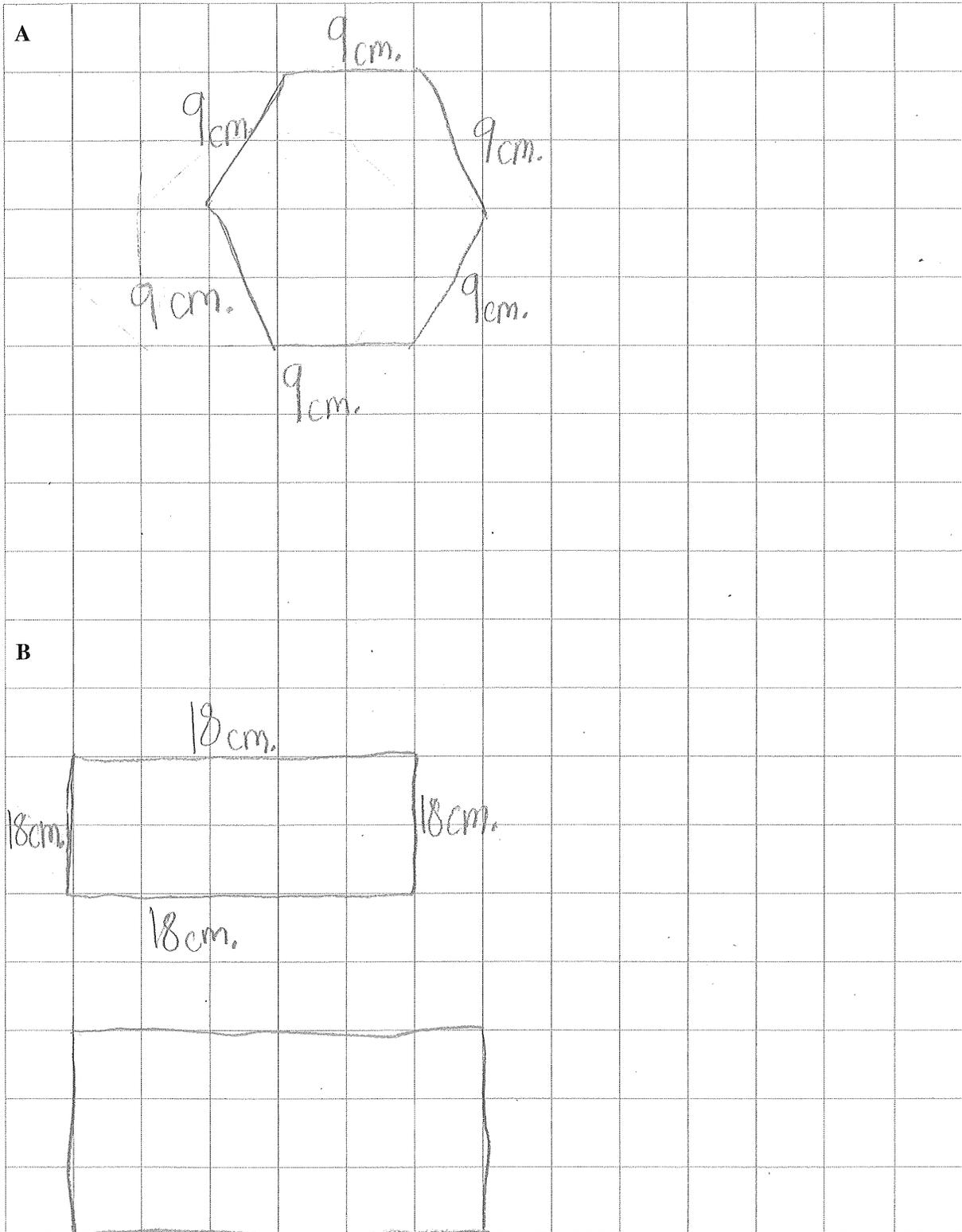
2	1.5
4	5
-	4
5	
-	9
8	
2	

Score Point: 2

The response to Part A includes the correct answer with correct and complete work (1.5).  
 The response to Part B includes some correct procedure (for determining side lengths of rectangle PQRS) (0.5).



Instructional Materials Question 39



Score Point: 1

The response to Part A includes the correct answer with no work or explanation (0.5). The response to Part B is incorrect (0).

Instructional Materials Question 39

**A**  $54 \div 6 = 9$   
 $6 \times 9 = 54$       9 cm

---

**B** I think the possible width and length  
of  WXYZ is ->  
Length      Width  
23 cm      16 cm

Score Point: 1

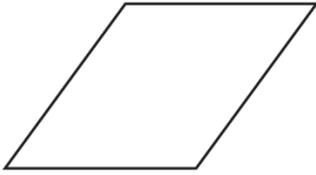
The response to Part A includes the correct answer with correct and complete work (1.5). The response to Part B is incorrect (0).

Nevada Instructional Materials Phase III  
Grade 3 Mathematics  
NVACS: M\_3.G.A1

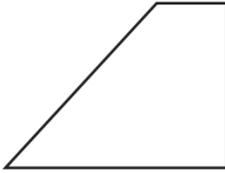
40

Which shape is **not** a quadrilateral?

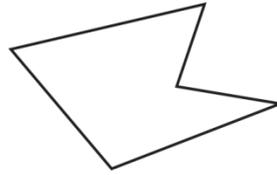
A



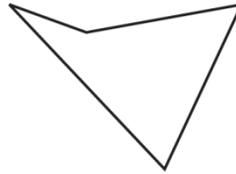
B



C



D



**Scoring Notes:**

**Rationale A:** quadrilateral

**Rationale B:** quadrilateral

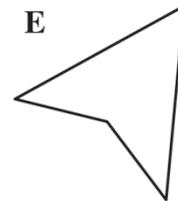
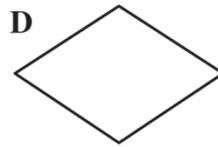
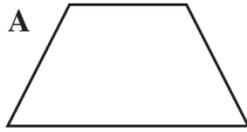
**Rationale C:** correct

**Rationale D:** quadrilateral

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.G.A1**

**41**

Circle **each** quadrilateral below that appears to be a rectangle.



**Scoring Notes:**

**Correct answers:** B, C

**Rationale A:** thinks the shape is a rectangle because it has at least one pair of parallel sides

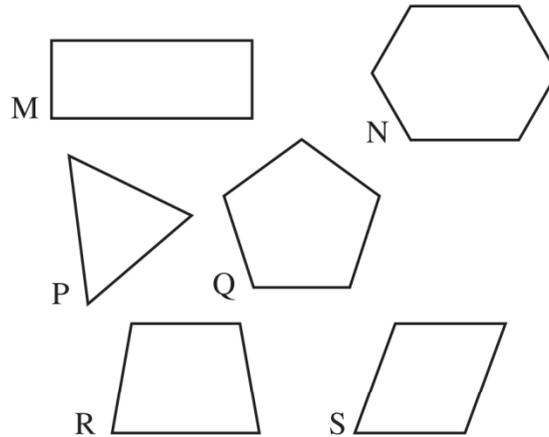
**Rationale D:** thinks the shape is a rectangle because it has two pairs of parallel sides

**Rationale E:** thinks the shape is a rectangle because it is a quadrilateral

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.G.A1; M\_3.G.A2**

**42**

Look at the shapes below.



- A** List **all** the shapes that appear to be quadrilaterals. Explain how you know that the shapes you listed are quadrilaterals.
- B** Using the grid on the next page, draw a shape that is a quadrilateral but is **not** a rhombus, a rectangle, or a square. The shape should also be easily divided into 2 parts with equal areas.

Draw a line through the shape you drew to divide it into 2 parts with equal areas.

What fraction describes the area of each part of the shape? Explain how you know that each part has an equal area.

**Write your response on the grid on the next page.**

**Scoring Notes:**

<b>Score</b>	<b>Description</b>
<b>4</b>	Student scores 4 points.
<b>3</b>	Student scores 3–3.5 points.
<b>2</b>	Student scores 2–2.5 points.
<b>1</b>	Student scores 0.5–1.5 points.
<b>0</b>	Student’s response provides insufficient evidence of appropriate skills or knowledge to successfully accomplish the task.
<b>Blank</b>	No student response.

**Score Points**

<b>Part A:</b>	score 2.0 points	correct list with correct and complete explanation
	<b>OR</b>	
	score 1.5 points	correct list with partially correct or incomplete explanation
	<b>OR</b>	
	score 1.0 point	correct list with no explanation
<b>OR</b>		partially correct list with correct and complete explanation
	<b>OR</b>	
	score 0.5 point	vague explanation
	<b>OR</b>	some correct procedure
<b>Part B:</b>	score 2.0 points	correct shape with line (answer may vary) and correct answer with correct and complete explanation
	<b>OR</b>	
	score 1.5 points	correct shape with line (answer may vary) and correct answer with partially correct or incomplete explanation
	<b>OR</b>	
	score 1.0 point	correct shape (answer may vary) and correct answer with no explanation
<b>OR</b>		correct shape with line (answer may vary) with no answer or explanation
	<b>OR</b>	
	score 0.5 point	some correct procedure
	<b>OR</b>	partially correct or incomplete explanation

## Correct Answers

**Part A:** Shapes M, R, and S.

**AND**

**Sample Explanation:**

They are quadrilaterals because quadrilaterals have 4 sides and the shapes listed all have 4 sides.

**Part B:** Answers may vary. Student draws any symmetrical quadrilateral that is not a rhombus, rectangle, or square.

**Sample Answer:**

Student draws a line through the shape to divide it into 2 sections with equal areas and gives the fraction  $\frac{1}{2}$  to describe the area of each section.

**Sample Explanation:**

The number of grid squares inside the shape on each side of the line is the same.

Instructional Materials Question 42

**A** M, P, and S are all quadrilaterals. They all have 4 sides.

**B**

If you fold it they will be equal.

Score Point: 4

The response to Part A includes the correct list with correct and complete explanation (2.0). The response to Part B includes a correct shape, with line, and the correct answer with correct and complete explanation (2.0).

Instructional Materials Question 42

**A**

M - rectangle

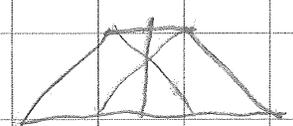
R - trapezoid

S - parallelogram

= 4 sides = quadrilaterals



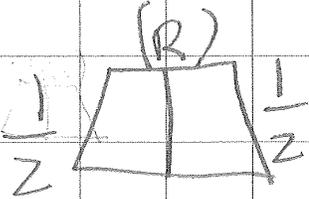
**B**



Score Point: 3

The response to Part A includes the correct list with correct and complete explanation (2.0). The response to Part B includes a correct shape, with line, with no answer or explanation (1.0).

Instructional Materials Question 42

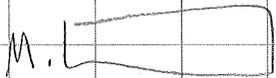
A	<del>M, R, S</del>
B	
	if you fold it in half it will be
	equal

Score Point: 3

The response to Part A includes the correct list with no explanation (1.0). The response to Part B includes a correct shape, with line, and the correct answer with correct and complete explanation (2.0).

Instructional Materials Question 42

**A**

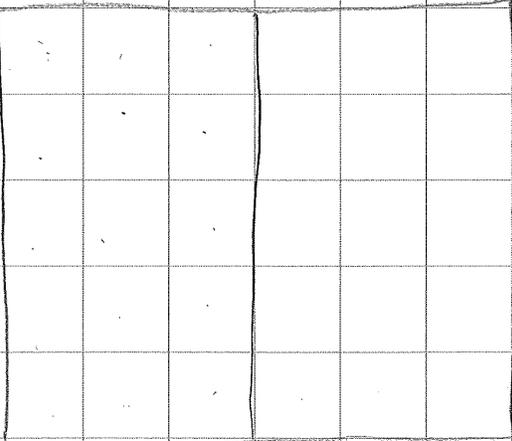
M.L.  R  S  because

each have four sides and four  
corners.

**B**

Square

↓



fraction is

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

I know each part is equal because  
each side has 15 squares

Score Point: 2

The response to Part A includes the correct list with correct and complete explanation (2.0). The response to Part B includes some correct procedure (line, answer, and explanation all correct/complete, but incorrect shape used) (0.5).

Instructional Materials Question 42

**A**

M S R  
M S and R are quadrilateral because  
quadrilateral means 4.

**B**

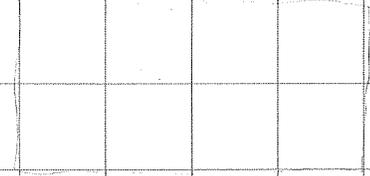
The diagram shows a trapezoid drawn on a grid. The top horizontal side is labeled with the number '1'. A vertical line segment is drawn from the midpoint of the top side to the bottom side, and this segment is labeled with the fraction  $\frac{1}{2}$ . The two slanted sides of the trapezoid are also labeled with the fraction  $\frac{1}{2}$ .

Score Point: 2

The response to Part A includes the correct list with incomplete explanation (1.5). The response to Part B includes a correct shape, with line, and the correct answer with no explanation (1.0).

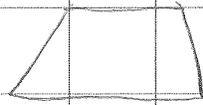


Instructional Materials Question 42

<b>A</b>	The quadrilaterals are M-R-S
	and those are the quadrilaterals.
	

**B**

a trapezoid is the quadrilateral.



Score Point: 1  
The response to Part A includes the correct list with no explanation (1.0). The response to Part B includes some correct procedure, for a correct shape (0.5).

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.G.A2**

**43**

A game board shaped like a circle is divided into 6 equal-sized sections. What fraction of the game board does each section represent?

A  $\frac{1}{6}$

B  $\frac{1}{5}$

C  $\frac{5}{6}$

D  $\frac{6}{6}$

**Scoring Notes:**

**Rationale A:** correct

**Rationale B:** subtracts 6 – 1 for denominator

**Rationale C:** subtracts 6 – 1 for numerator

**Rationale D:** represents whole

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.G.A2**

**44**

Each shape shown below is divided into 3 parts. In which shapes is the area of **each** part  $\frac{1}{3}$  of the area of the shape? Circle **all** that apply.

**A**



**B**



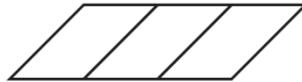
**C**



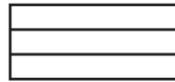
**D**



**E**



**F**



**Scoring Notes:**

**Correct answers:** C, E, F

**Rationale A:** parts are not all equal in size

**Rationale B:** parts are not all equal in size

**Rationale D:** parts are not all equal in size

**Nevada Instructional Materials Phase III**  
**Grade 3 Mathematics**  
**NVACS: M\_3.G.A2**

**45**

Zack cut a rectangular wooden board into 8 pieces of equal size.

Using the grid below, draw a picture that could represent the rectangular wooden board and the cuts Zack made to get 8 pieces of equal size.

What fraction of the entire wooden board does each piece represent?

Write your response on the grid below.

**Scoring Notes:**

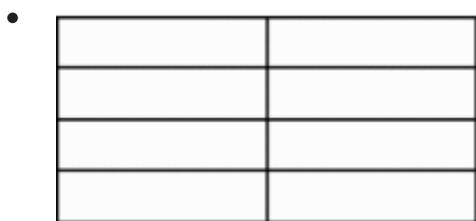
For this item, a full-credit response (2 points) includes

- correct fraction representing one piece of the entire board,  $\frac{1}{8}$

**AND**

- correct picture representing the rectangular board cut into 8 pieces of equal size

For example,



For this item, a partial-credit response (1 point) includes

- correct fraction representing one piece of the entire board,  $\frac{1}{8}$

**OR**

- correct picture representing the rectangular board cut into 8 pieces of equal size

For this item, a no-credit response (0 points) includes none of the features of a full- or partial-credit response.



**Dale A.R. Erquiaga**

*Superintendent of Public Instruction*

**Office of Assessment, Program Accountability, and Curriculum**

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