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lead4ward

IQ: INVESTIGATING THE QUESTIONS

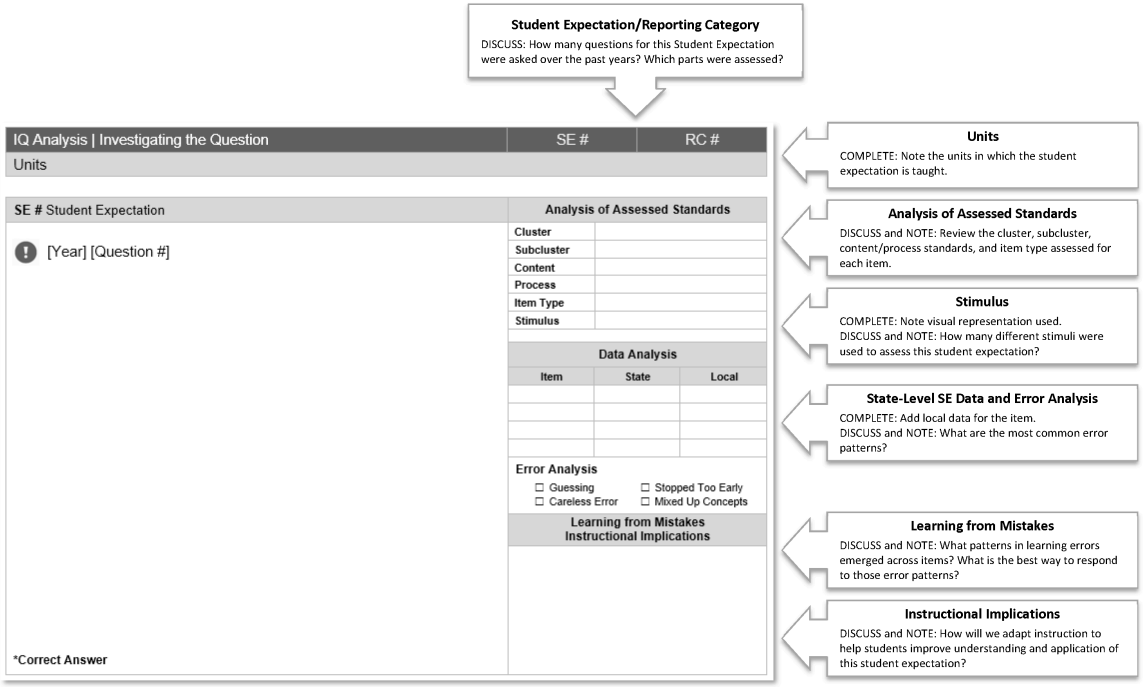
2022-2025 Released Tests

Aligned to the Standards

CONTENT BUILDER FOR THE PLC

Math

Grade 3



In conjunction with the IQ analysis tool, the lead4ward field guides can be a helpful resource for understanding error patterns and instructional implications.

Learn more

Representation and Comparison of Whole Numbers

3.2 Number and operations. The student applies mathematical process standards to represent and compare whole numbers and understand relationships related to place value.

IQ Analysis | Investigating the Question	3.2(A)	RC 1

3.2(A) compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

2025 – Q1

Which expressions are equivalent to 15,090?

Select **TWO** correct answers.

- ☐ 1, 000 + 5, 000 + 900
- ☐ 15, 000 + 90
- ☐ 1, 000 + 5, 000 + 90
- ☐ 15, 000 + 900
- ☐ 10, 000 + 5, 000 + 90

***Correct Answer (2nd option; 5th option)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Representation of Whole Numbers
Content	Readiness
Process	
Item Type	Multiselect (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	73	
No Credit	5	
Partial Credit	22	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(A) compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

2025 – Q24

Evie finds the sum of 70 hundreds, 1 ten, and 15 ones.

What number represents Evie's sum?

Ⓐ 70,025

Ⓑ 7,025

Ⓒ 70,115

Ⓓ 7,015

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Representation of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B*	39	
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(A) compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

2024 – Q30

Create an expression equivalent to 40,280.

Move the correct answer to each box. Not all answers will be used.

hundreds | ten thousands | ones | thousands | tens

4 [ ] + 2 [ ] + 8 [ ]

***Correct Answer (ten thousands; hundreds; tens)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Representation of Whole Numbers
Content	Readiness
Process	
Item Type	Drag and Drop (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**70**	
No Credit	**22**	
Partial Credit	**8**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(A) compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

2023 – Q28

Which answer choice describes the number 9,140?

Ⓐ The sum of nine thousands and fourteen ones

Ⓑ The sum of nine thousands, one hundred, and forty tens

Ⓒ The sum of nine thousands, one hundred, and four tens

Ⓓ The sum of nine thousands, one hundred, and four ones

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Representation of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	6	
B	31	
C*	59	
D	4	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(A) compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate

2022 – Q24

24 An expression is shown.

$$5 + 700 + 40$$

What number is equivalent to this expression?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

***Correct Answer (745)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Representation of Whole Numbers
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
745	81*	
	19	

Error Analysis

▢ Guessing ▢ Mixed Up Concepts

▢ Careless Error ▢ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(B) describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

2025 – Q27

A number is shown.

858,386

Compare the value of 8 in each place value.

Choose the correct answer from each drop-down menu to complete the sentences.

The value of the 8 in the hundred thousands place is [ ] times greater than the value of the 8 in the thousands place.

The value of the 8 in the hundred thousands place is [ ] times greater than the value of the 8 in the tens place.

***Correct Answer (100; 10,000)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Representation of Whole Numbers
Content	Supporting
Process	
Item Type	Inline Choice (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**11**	
No Credit	**60**	
Partial Credit	**29**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(B) describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

2024 – Q4

What is the relationship between the thousands place and the tens place in the number shown?

583,436

Ⓐ The thousands place is two times greater than the tens place.

Ⓑ The thousands place is ten times greater than the tens place.

Ⓒ The thousands place is one hundred times greater than the tens place.

Ⓓ The thousands place is three hundred times greater than the tens place.

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Representation of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	**35**	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

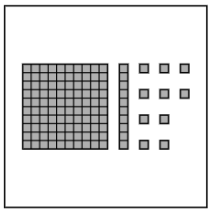
Learning from Mistakes Instructional Implications

3.2(B) describe the mathematical relationships found in the base-10 place value system through the hundred thousands place

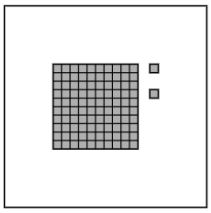
2023 – Q20

Three students made models to represent numbers. The models are shown.

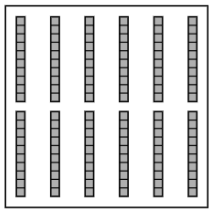
Anne



Kareena



Zane



Which models represent the same number?

Ⓐ Anne's model and Kareena's model, because 1 hundred, 1 ten, and 10 ones is equivalent to 1 hundred and 2 ones

Ⓑ Kareena's model and Zane's model, because 1 hundred and 2 ones is equivalent to 12 tens

Ⓒ Anne's model and Zane's model, because 1 hundred, 1 ten, and 10 ones is equivalent to 12 tens

Ⓓ None of the models

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Representation of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	16	
B	15	
C*	53	
D	17	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(D) compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =

2025 – Q9

The table shows the number of seats in four stadiums.

Number of Seats in Stadium

Stadium	Number of Seats
Stadium *W*	74,867
Stadium *X*	71,608
Stadium *Y*	76,416
Stadium *Z*	74,295

Compare the number of seats in the stadiums.

Choose the correct answer from each drop-down menu to complete the sentences.

The stadium with the least number of seats is Stadium [ ] .

The stadium with the greatest number of seats is Stadium [ ] .

***Correct Answer (Stadium X; Stadium Y)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Comparison of Whole Numbers
Content	Readiness
Process	
Item Type	Inline Choice (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**72**	
No Credit	**14**	
Partial Credit	**14**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(D) compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =

2025 – Q30

Emilia compares three numbers. One of the numbers is missing, as shown.

$46{,}523 < \square < 46{,}779$

Which number can go in the box to make the statement true?

Ⓐ 47,623

Ⓑ 46,518

Ⓒ 46,575

Ⓓ 45,250

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Comparison of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	**60**	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(D) compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =

2024 – Q2

This list shows three clues about a number:

- The number is greater than 89,236.
- The number is less than 91,103.
- The number has a digit greater than 7 in the thousands place.

Which of these could be the number?

Ⓐ 88,598

Ⓑ 91,057

Ⓒ 89,099

Ⓓ 89,572

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Comparison of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	59	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(D) compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =

2023 – Q13

Which list contains only numbers that belong between 5,090 and 6,300 on a number line?

Ⓐ
53,450
54,258
61,988

Ⓑ
5,009
5,894
6,132

Ⓒ
5,450
6,215
6,381

Ⓓ
5,746
6,099
6,211

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Comparison of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	10	
B	33	
C	15	
D*	42	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(D) compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =

2023 – Q25

A table with the areas of four states is shown.

State Areas

State	Area (square miles)
Connecticut	4,845
Vermont	9,624
Hawaii	6,423
New Hampshire	9,350

Which list represents the areas of the states ordered from least to greatest?

Ⓐ Vermont, New Hampshire, Hawaii, Connecticut

Ⓑ Connecticut, Hawaii, New Hampshire, Vermont

Ⓒ Connecticut, Hawaii, Vermont, New Hampshire

Ⓓ New Hampshire, Hawaii, Vermont, Connecticut

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Comparison of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	20	
B*	67	
C	9	
D	4	

Error Analysis

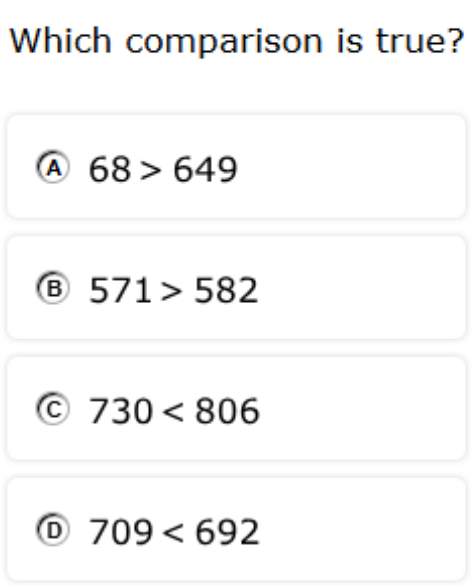
☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(D) compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =

2022 – Q1



***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Comparison of Whole Numbers
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
A	4	
B	3	
C*	87	
D	5	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

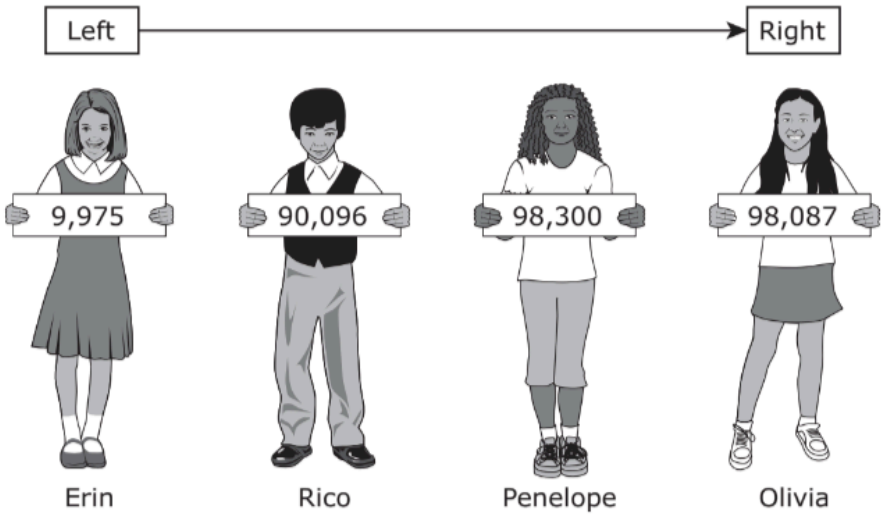
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(D) compare and order whole numbers up to 100,000 and represent comparisons using the symbols >, <, or =

2022 – Q19

19 Four students with number cards want to line up from left to right in order from least to greatest number.



Which statement is true?

A Olivia should be between Erin and Rico.

B Erin should be on the right end after Olivia.

C Penelope should be on the right end after Olivia.

D All the students are in the correct order.

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Comparison of Whole Numbers
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
A	12	
B	10	
C*	71	
D	7	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

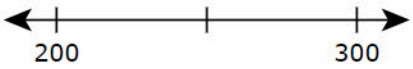
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.2(C) represent a number on a number line as being between two consecutive multiples of 10; 100; 1,000; or 10,000 and use words to describe relative size of numbers in order to round whole numbers

2024 – Q8

Michel plots a point on a number line to represent a number. The point is more than halfway between 200 and 300.



Which number could Michel's point represent?

Ⓐ 225

Ⓑ 208

Ⓒ 264

Ⓓ 250

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Representation and Comparison of Whole Numbers
Subcluster	Rounding of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	23	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

Fractions

3.3 Number and operations. The student applies mathematical process standards to represent and explain fractional units.

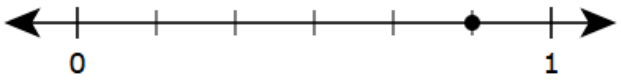
Connected Knowledge and Skills 3.6, 3.7

IQ Analysis | Investigating the Question	3.3(B)	RC 1

3.3(B) determine the corresponding fraction greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 given a specified point on a number line

2025 – Q3

A number line is shown.



Which fraction does the point represent?

Ⓐ $\frac{1}{5}$

Ⓑ $\frac{1}{6}$

Ⓒ $\frac{5}{5}$

Ⓓ $\frac{5}{6}$

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Representation of Fractions
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	71	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

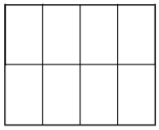
Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.3(E)	RC 1

3.3(E) solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

2025 – Q19

A school chooses 4 students to paint an entire wall. The model shown represents the wall divided into equal parts.



Each student will paint the same amount of the wall.

What fraction of the wall will each student paint?

Ⓐ $\frac{1}{8}$

Ⓑ $\frac{4}{8}$

Ⓒ $\frac{12}{8}$

Ⓓ $\frac{2}{8}$

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Representation of Fractions
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	**50**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.3(E) solve problems involving partitioning an object or a set of objects among two or more recipients using pictorial representations of fractions with denominators of 2, 3, 4, 6, and 8

2022 – Q15

15 Carter and Dane shared a package of 8 baseballs equally.

What fraction of the package of baseballs did each person get?

A $\frac{2}{8}$

B $\frac{4}{4}$

C $\frac{4}{1}$

D $\frac{4}{8}$

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Representation of Fractions
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
A	19	
B	9	
C	2	
D*	71	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

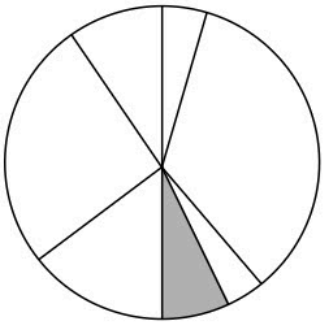
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.3(C) explain that the unit fraction 1/b represents the quantity formed by one part of a whole that has been partitioned into b equal parts where b is a non-zero whole number

2024 – Q10

Byron draws the fraction model shown.



He claims that the shaded part represents $\frac{1}{7}$ of the whole model.

Complete the statement to describe Byron's claim.

Choose the correct answer from each drop-down menu to complete the sentence.

Byron's claim is [ ] because $\frac{1}{7}$ of a model should be represented by 1 shaded part [ ]

***Correct Answer (incorrect; out of 7 equal parts)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Unit Fractions
Content	Supporting
Process	
Item Type	Inline Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**56**	
No Credit	**44**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

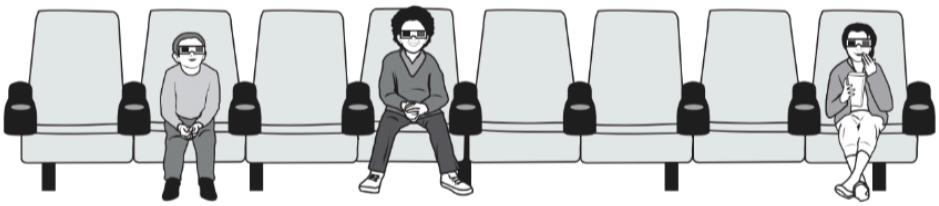
Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.3(D)	RC 1

3.3(D) compose and decompose a fraction a/b with a numerator greater than zero and less than or equal to b as a sum of parts 1/b

2022 – Q10

10 The picture shows 8 seats in a movie theater. Children are sitting in a fraction of the seats.



Which expression is equivalent to the fraction of the seats that have children sitting in them?

F $\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}+\frac{1}{8}$

G $\frac{1}{3}+\frac{1}{3}+\frac{1}{3}$

H $\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}+\frac{3}{8}$

J $\frac{1}{8}+\frac{1}{8}+\frac{1}{8}$

***Correct Answer (J)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Unit Fractions
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
F	6	
G	10	
H	15	
J*	68	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

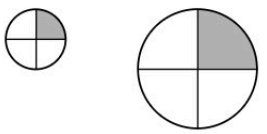
Learning from Mistakes Instructional Implications

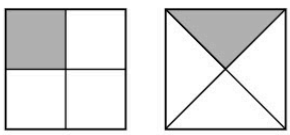
3.6(E) decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape

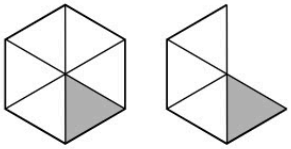
2024 – Q16

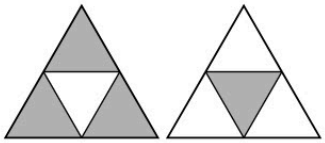
Calvin draws two congruent figures. He shades an equal area of each figure.

Which figures could be Calvin's?

Ⓐ 

Ⓒ 

Ⓑ 

Ⓓ 

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Unit Fractions
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	**42**	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

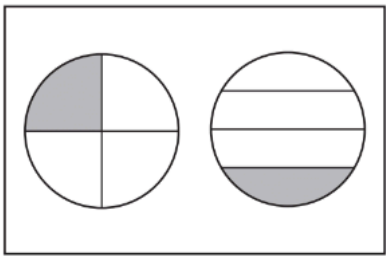
3.6(E) decompose two congruent two-dimensional figures into parts with equal areas and express the area of each part as a unit fraction of the whole and recognize that equal shares of identical wholes need not have the same shape

2022 – Q29

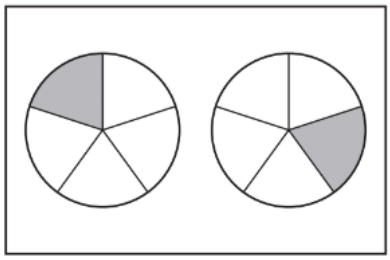
29 Derrick drew two congruent figures and then shaded $\frac{1}{4}$ of each figure.

Which figures could be the ones Derrick drew and shaded?

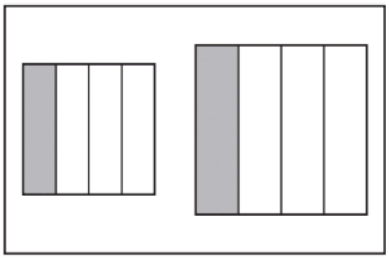
A



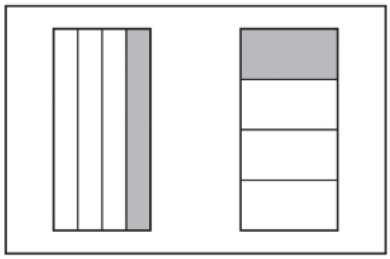
C



B



D



***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Unit Fractions
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
A	35	
B	23	
C	13	
D*	28	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

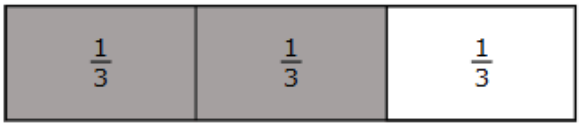
Learning from Mistakes Instructional Implications

3.3(F) represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

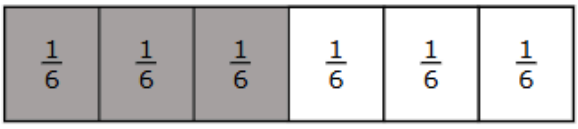
2025 – Q18

Which fraction strip shows a shaded area equivalent to $\frac{4}{6}$?

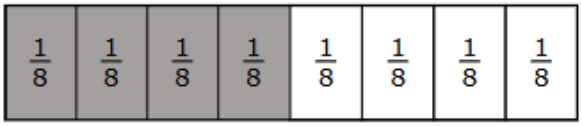
(A)



(B)



(C)



(D)

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Equivalency of Fractions
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	50	
B		
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

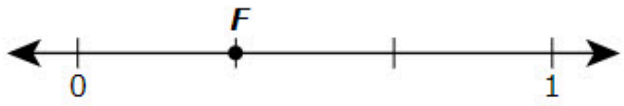
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes
Instructional Implications

3.3(F) represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

2024 – Q23

Point *F* on the number line shown represents a fraction.



Which fractions can be represented by point *F*?

Select **TWO** correct answers.

- ☐ $\frac{1}{2}$
- ☐ $\frac{2}{3}$
- ☐ $\frac{1}{3}$
- ☐ $\frac{2}{6}$
- ☐ $\frac{2}{4}$

***Correct Answer (C, D)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Equivalency of Fractions
Content	Readiness
Process	
Item Type	Multiselect (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	33	
No Credit	17	
Partial Credit	50	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes
Instructional Implications

3.3(F) represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

2023 – Q30

Four fraction models are shown.

Model W

Model X

Model Y

Model Z

Which two models are shaded to show equivalent fractions?

Ⓐ Models W and X

Ⓑ Models X and Z

Ⓒ Models W and Z

Ⓓ Models X and Y

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Equivalency of Fractions
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	12	
B*	67	
C	10	
D	11	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

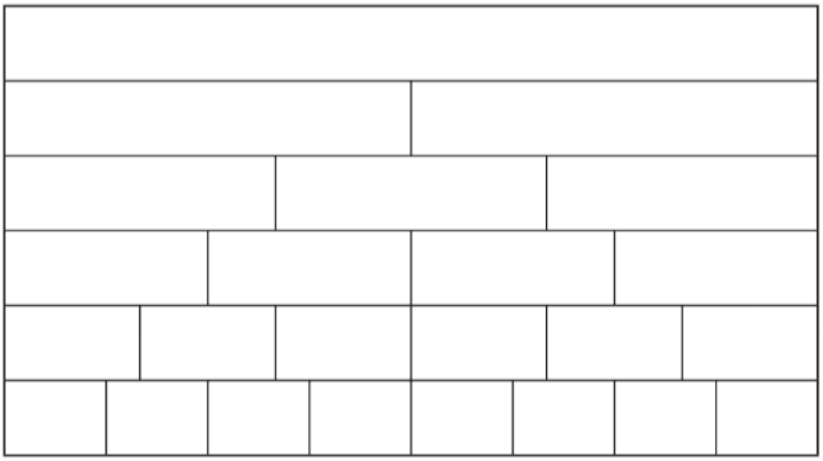
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.3(F) represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines

2022 – Q26

26 The fraction strips shown can be used to find equivalent fractions.



Which fraction is equivalent to $\frac{2}{4}$?

F $\frac{1}{2}$

G $\frac{2}{6}$

H $\frac{3}{4}$

J $\frac{1}{3}$

***Correct Answer (F)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Equivalency of Fractions
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
F*	67	
G	14	
H	14	
J	4	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

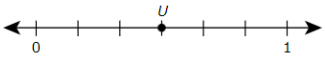
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.3(G) explain that two fractions are equivalent if and only if they are both represented by the same point on the number line or represent the same portion of a same size whole for an area model

2023 – Q18

Point *U* on the number line represents equivalent fractions.



What is true about point *U*?

Complete the sentences by selecting the correct answers from the drop-down menus.

Point *U* can represent [ ] or [ ] The two fractions are equal because they both [ ]

***Correct Answer (3/6, 1/2, are exactly halfway between zero and 1)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Equivalency of Fractions
Content	Supporting
Process	
Item Type	Inline Choice (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	28	
No Credit	41	
Partial Credit	31	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.3(H)	RC 1

3.3(H) compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models

2025 – Q15

Kayla and Doug are playing with blocks.

- Kayla has 6 blocks.
- Doug has 8 blocks.
- Kayla and Doug each have 3 yellow blocks.

Who has a greater fraction of yellow blocks?

Ⓐ Kayla, because $\frac{3}{6} > \frac{3}{8}$

Ⓑ Doug, because $\frac{3}{6} > \frac{3}{8}$

Ⓒ Kayla, because $\frac{3}{6} < \frac{3}{8}$

Ⓓ Doug, because $\frac{3}{6} < \frac{3}{8}$

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Comparison of Fractions
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	60	
B		
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes
Instructional Implications

3.3(H) compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models

2024 – Q25

Serena and Ricky each have a milkshake. The two milkshakes are the same size.

- Serena drinks $\frac{5}{6}$ of her milkshake.
- Ricky drinks $\frac{5}{8}$ of his milkshake.

Compare the amounts that Serena and Ricky drink.

Choose the correct answer from each drop-down menu to complete the sentence.

Serena drinks [ ] Ricky because [ ]

***Correct Answer (more of a milkshake than; sixths are larger than eighths)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Comparison of Fractions
Content	Readiness
Process	
Item Type	Inline Choice (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	46	
No Credit	33	
Partial Credit	21	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.3(H) compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models

2023 – Q1

Which comparison is true?

Ⓐ $\frac{2}{4} > \frac{2}{6}$

Ⓑ $\frac{2}{3} = \frac{2}{4}$

Ⓒ $\frac{2}{6} > \frac{2}{4}$

Ⓓ $\frac{2}{3} < \frac{2}{8}$

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Comparison of Fractions
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	68	
B	5	
C	13	
D	14	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

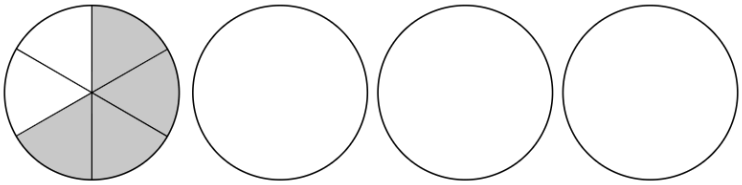
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes
Instructional Implications

3.3(H) compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models

2023 – Q23

Hector has four circles that are the same size. He divided and shaded the first circle to represent the fraction $\frac{4}{6}$.



Hector will correctly divide and shade the other circles to represent fractions less than $\frac{4}{6}$.

Which answer choice is NOT a way Hector could divide and shade a circle to represent a fraction less than $\frac{4}{6}$?

Ⓐ He could divide a circle into 6 equal parts and shade 1 of the parts.

Ⓑ He could divide a circle into 8 equal parts and shade 4 of the parts.

Ⓒ He could divide a circle into 4 equal parts and shade 4 of the parts.

Ⓓ He could divide a circle into 6 equal parts and shade 3 of the parts.

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Comparison of Fractions
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	22	
B	30	
C*	36	
D	12	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.3(H) compare two fractions having the same numerator or denominator in problems by reasoning about their sizes and justifying the conclusion using symbols, words, objects, and pictorial models

2022 – Q3

3 A student measured the lengths of two worms.

- Worm S was $\frac{1}{2}$ foot long.
- Worm T was $\frac{2}{2}$ foot long.

Which statement is true?

A The length of Worm S is greater than the length of Worm T.

B The length of Worm T is greater than the length of Worm S.

C The length of Worm S is equal to the length of Worm T.

D There is not enough information to compare the lengths of the worms.

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Fractions
Subcluster	Comparison of Fractions
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
A	13	
B*	78	
C	6	
D	3	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

Addition and Subtraction of Whole Numbers

3.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy.

3.5 Algebraic reasoning. The student applies mathematical process standards to analyze and create patterns and relationships.

3.4(A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

2025 – Q6

Tina hikes in the summer, winter, and fall. She records how many hours she spends hiking in a table, as shown.

Time Spent Hiking

Season	Time (hours)
Summer	360
Fall	610
Winter	344

How many more hours does Tina hike during summer and winter combined than in the fall?

Ⓐ 704 hours

Ⓑ 250 hours

Ⓒ 94 hours

Ⓓ 114 hours

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	**52**	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

2025 – Q16

Kasey bought two bags of beads.

- One bag contained 250 beads.
- The other bag contained 400 beads.

Kasey used all but 36 of the total number of beads for an art project.

What was the total number of beads that Kasey used for the art project?

Enter your answer in the box.

*Correct Answer (614)

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Equation Editor (1 pt)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**39**	
No Credit	**61**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

2024 – Q1

A school had 375 hot dogs to sell during a carnival. After the carnival ended, 83 hot dogs were not sold.

How many hot dogs were sold during the carnival?

Ⓐ 292

Ⓑ 312

Ⓒ 458

Ⓓ 282

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	69	
B		
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

2024 – Q22

At a weekend bake sale, 295 cookies were sold on Saturday. On Sunday 88 more cookies were sold than were sold on Saturday.

What was the total number of cookies sold on Saturday and Sunday?

A 207

B 383

C 502

D 678

*Correct Answer (D)

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	21	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

2023 – Q9

Ms. Green had some fabric to make costumes for three different plays at school. The table shows the number of yards of fabric Ms. Green used to make the costumes for each play.

Fabric Used

Play	Fabric (yards)
X	69
Y	48
Z	53

Ms. Green had 27 yards of fabric left over after making costumes for these plays. How many yards of fabric did Ms. Green start with?

Ⓐ 170 yards

Ⓑ 197 yards

Ⓒ 143 yards

Ⓓ 177 yards

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	**51**	
B*	**29**	
C	**13**	
D	**6**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

2023 – Q17

Last month the school store sold 107 T-shirts and 88 sweatshirts.

How many more T-shirts were sold than sweatshirts?

Ⓐ 19

Ⓑ 29

Ⓒ 185

Ⓓ 195

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	60	
B	17	
C	8	
D	15	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

2022 – Q17

A movie theater has 710 seats.

- 158 seats are red.
- 247 seats are black.
- 119 seats are yellow.
- The rest of the seats are green.

How many seats are green?

Ⓐ 186

Ⓑ 524

Ⓒ 214

Ⓓ 206

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
A*	55	
B	23	
C	12	
D	10	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(A) solve with fluency one-step and two-step problems involving addition and subtraction within 1,000 using strategies based on place value, properties of operations, and the relationship between addition and subtraction

2022 – Q32

32 At the beginning of September, Mr. Watkins had 543 erasers.

- During September he gave his students 99 of the erasers.
- During October he gave his students 212 of the erasers.

How many erasers did Mr. Watkins have at the end of October?

F 854

G 232

H 430

J 344

***Correct Answer (G)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
F	15	
G*	66	
H	7	
J	11	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

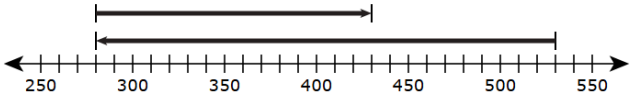
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(A) represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

2025 – Q14

A library has 530 books at the start of the day. The number line shown can be used to find the number of books the library has at the end of the day.



Which statement is best represented by the number line?

Ⓐ 250 books are returned and 150 books are borrowed.

Ⓑ 250 books are borrowed. Another 150 books are borrowed.

Ⓒ 250 books are returned. Another 150 books are returned.

Ⓓ 250 books are borrowed and 150 books are returned.

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	**38**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(A) represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

2024 – Q7

Jada is traveling to visit her aunt who lives 789 miles away. She needs to travel 321 more miles to arrive at her aunt's house.

Which representations can be used to find the number of miles Jada has already traveled?

Select **TWO** correct answers.

- ☐ $321 - \square = 789$
- ☐ $321 + \square = 789$
- ☐ $789 + 321 = \square$
- ☐

?	
789	321

- ☐

789	
?	321

***Correct Answer (B, E)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Multiselect (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**40**	
No Credit	**21**	
Partial Credit	**39**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(A) represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

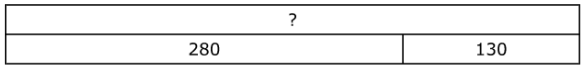
2023 – Q7

A cafeteria had 280 ice-cream bars. During lunch some of the ice-cream bars were sold. After lunch 130 ice-cream bars were left over.

Which answer choice best represents one way to find the number of ice-cream bars sold during lunch?

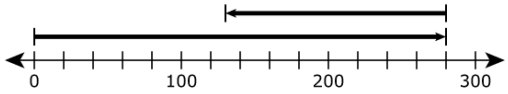
Ⓐ ☐ − 280 = 130

Ⓑ



Ⓒ 280 + ☐ = 130

Ⓓ



***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	**39**	
B	**24**	
C	**5**	
D*	**31**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(A) represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

2023 – Q24

Two friends played a game. The first friend scored 339 points. The second friend scored 75 more points than the first friend.

Which strip diagram can be used to find the total number of points both friends scored?

Ⓐ

339	
75	?

Ⓑ

339	339
75	?

Ⓒ

?	
339	75

Ⓓ

?		
339	339	75

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	**36**	
B	**8**	
C	**49**	
D*	**8**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(A) represent one- and two-step problems involving addition and subtraction of whole numbers to 1,000 using pictorial models, number lines, and equations

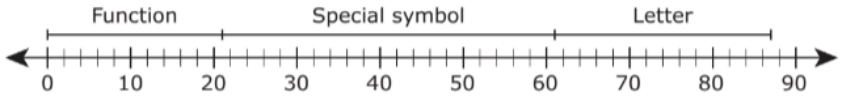
2022 – Q21

21 The total number of keys on a computer keyboard is 87.

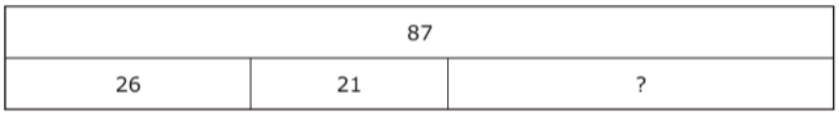
- There are 26 letter keys and 21 special symbol keys on the keyboard.
- The rest of the keys are function keys.

Which model represents one way to find the number of function keys on the keyboard?

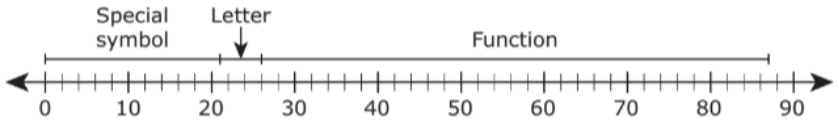
A



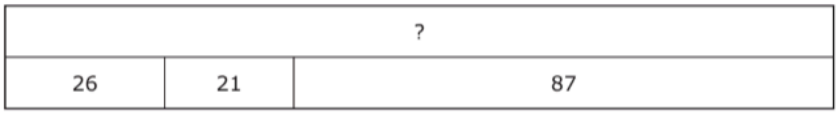
B



C



D



***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Addition/Subtraction of Whole Numbers
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
A	13	
B*	67	
C	11	
D	9	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.4(B)	RC 2

3.4(B) round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

2025 – Q29

Andrea has 67 green marbles and 54 blue marbles. She rounds each number to the nearest ten to estimate how many marbles she has in total.

Complete the sentences to show how Andrea estimates the total.

Move the correct answer to each box. Each answer may be used more than once. Not all answers will be used.

70 50 130 60 110 120

She rounds 67 green marbles to [ ].

She rounds 54 blue marbles to [ ].

Andrea estimates she has [ ] marbles in total.

***Correct Answer (70; 50; 120)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Estimation of Whole Numbers
Content	Supporting
Process	
Item Type	Drag and Drop (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**53**	
No Credit	**36**	
Partial Credit	**11**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(B) round to the nearest 10 or 100 or use compatible numbers to estimate solutions to addition and subtraction problems

2024 – Q17

Eliza rode her bike on three days last week.

- On Tuesday, she rode 12 miles.
- On Thursday, she rode 9 miles.
- On Saturday, she rode 7 miles.

She rounds each number to the nearest ten to find the estimate of the total number of miles she rode.

What is Eliza's estimate?

Ⓐ 10 mi

Ⓑ 30 mi

Ⓒ 40 mi

Ⓓ 20 mi

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Estimation of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B*	61	
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(E) represent real-world relationships using number pairs in a table and verbal descriptions

2023 – Q12

Isabel sells clothing online. She sends a free gift with each order. The table shows the number of items ordered and the number of items sent for three orders, X, Y, and Z.

Isabel's Clothing Orders

Order	Items Ordered	Items Sent
X	5	6
Y	3	4
Z	6	7

Complete the sentence to describe the relationship in the table.

Select the correct answer for each blank from the drop-down menus.

The number of items ordered [ ] the number [ ] equals the number of items sent.

***Correct Answer (plus, 1)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Numerical Patterns
Content	Readiness
Process	
Item Type	Inline Choice (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**51**	
No Credit	**24**	
Partial Credit	**25**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(E) represent real-world relationships using number pairs in a table and verbal descriptions

2022 – Q9

9 The table shows the numbers of tomato plants and spinach plants in five different gardens.

Garden Plants

Garden	Number of Tomato Plants	Number of Spinach Plants
K	34	43
L	26	35
M	38	47
N	29	38
P	45	54

Based on the relationship shown in the table, which statement is true?

A There are 9 more spinach plants than tomato plants in each garden.

B There are 9 fewer spinach plants than tomato plants in each garden.

C There are 8 more spinach plants than tomato plants in each garden.

D There are 8 fewer spinach plants than tomato plants in each garden.

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Addition and Subtraction of Whole Numbers
Subcluster	Numerical Patterns
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
A*	**74**	
B	**12**	
C	**10**	
D	**5**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

Multiplication and Division of Whole Numbers

3.4 Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations in order to solve problems with efficiency and accuracy.

3.5 Algebraic reasoning. The student applies mathematical process standards to analyze and create patterns and relationships.

Connected Knowledge and Skills 3.6

3.4(D) determine the total number of objects when equally-sized groups of objects are combined or arranged in arrays up to 10 by 10

2024 – Q11

There are 8 squares on each row of a game board. One row of the game board is shown.

How many squares are on 8 rows of the game board?

Ⓐ 56

Ⓑ 8

Ⓒ 16

Ⓓ 64

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	60	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.4(E)	RC 2

3.4(E) represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

2024 – Q9

A student solved a problem by skip counting. The student's work is shown with the answer circled.

4, 8, 12, 16, 20, 24, 28, 32, 36, (40), 44

Which equation CANNOT be used to find the answer the student circled?

Ⓐ $10 \times 10 \times 10 \times 10 =$

Ⓑ $4 \times 10 =$

Ⓒ $10 \times 4 =$

Ⓓ $4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 =$

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	59	
B		
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(E) represent multiplication facts by using a variety of approaches such as repeated addition, equal-sized groups, arrays, area models, equal jumps on a number line, and skip counting

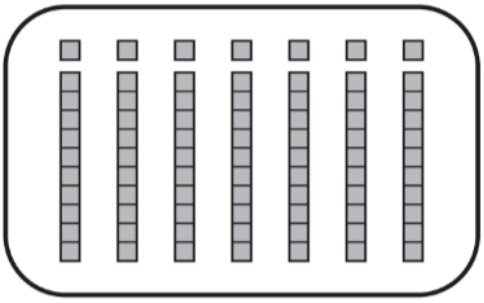
2022 – Q7

7 Gia lists some different methods she thinks she can use to solve the multiplication problem shown.

$$7 \times 11 = ?$$

Which answer choice is **NOT** a correct method for Gia to use?

A



B

C 11, 22, 33, 44, 55, 66, (77)

D 7, 18, 29, 40, 51, 62, (73)

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication of Whole Numbers
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
A	11	
B	13	
C	11	
D*	65	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(G) use strategies and algorithms, including the standard algorithm, to multiply a two-digit number by a one-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties

2024 – Q28

A teacher bought 8 boxes of pencils. Each box contained 48 pencils.

How many pencils did the teacher buy?

Ⓐ 376

Ⓑ 384

Ⓒ 366

Ⓓ 324

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B*	61	
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.5(C)	RC 2

3.5(C) describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

2025 – Q23

A restaurant sells 38 pizzas on Wednesday. The expression 38×2 can be used to find the number of pizzas the restaurant sells on Saturday.

Which statement is true?

Ⓐ There are 38 times as many pizzas sold on Wednesday as on Saturday.

Ⓑ There are 2 times as many pizzas sold on Wednesday as on Saturday.

Ⓒ There are 2 times as many pizzas sold on Saturday as on Wednesday.

Ⓓ There are 38 times as many pizzas sold on Saturday as on Wednesday.

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	**40**	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(C) describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

2023 – Q26

Alex scored 8 points in a basketball game. The expression shows the number of points that Sara scored.

8×3

Complete the statement to compare the numbers of points scored by Alex and Sara.

Move the correct answer to each box. Not all answers will be used.

Sara | Alex | 8 | 3 | more points than | times as many points as

[ ] scored [ ] [ ]
[ ] did.

***Correct Answer (Sara, 3, times as many points as, Alex)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication of Whole Numbers
Content	Supporting
Process	
Item Type	Drag and Drop (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**39**	
No Credit	**35**	
Partial Credit	**26**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(C) describe a multiplication expression as a comparison such as 3 x 24 represents 3 times as much as 24

2022 – Q2

2 Haruko did 9 sit-ups in P.E. class. The number of sit-ups Tom did can be represented by this expression.

2×9

Which statement is true?

F Tom did 2 times as many sit-ups as Haruko.

G Haruko did 2 times as many sit-ups as Tom.

H Tom did 2 more sit-ups than Haruko.

J Haruko did 2 more sit-ups than Tom.

***Correct Answer (F)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication of Whole Numbers
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
F*	**72**	
G	**15**	
H	**7**	
J	**6**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.5(D)	RC 2

3.5(D) determine the unknown whole number in a multiplication or division equation relating three whole numbers when the unknown is either a missing factor or product

2022 – Q23

23 What number goes in the ☐ to make the equation true?

☐ × 7 = 98

A 14

B 91

C 105

D 13

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication of Whole Numbers
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
A*	71	
B	8	
C	4	
D	18	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

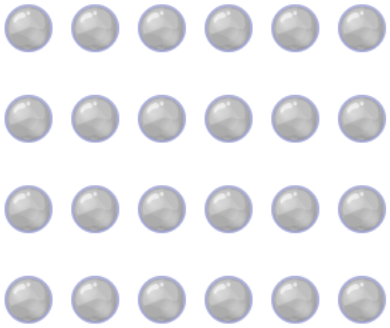
Learning from Mistakes Instructional Implications

3.4(H) determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

2025 – Q25

Barry has 24 marbles. He separates them into 3 groups of equal size.

Select the number of marbles that are in one group.



***Correct Answer (Any 8 marbles)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Division of Whole Numbers
Content	Supporting
Process	
Item Type	Hot Spot (1 pt)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**48**	
No Credit	**52**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

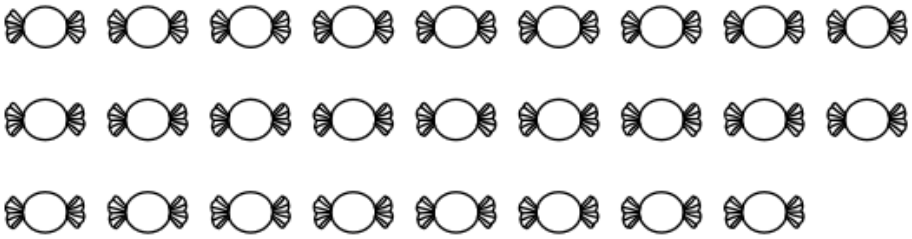
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(H) determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

2023 – Q2

Lupita has 26 pieces of candy as shown.



She puts two pieces of candy each into bags.

How many bags does Lupita need for all of the candy?

Ⓐ 2

Ⓑ 24

Ⓒ 3

Ⓓ 13

***Correct Answer (D)**

Analysis of Assessed Standards	
Cluster	Multiplication and Division of Whole Numbers
Subcluster	Division of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	8	
B	11	
C	5	
D*	76	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

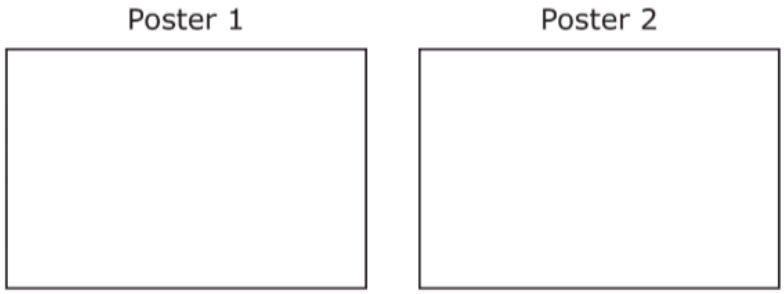
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(H) determine the number of objects in each group when a set of objects is partitioned into equal shares or a set of objects is shared equally

2022 – Q25

25 Greg had a package of 14 stars to put on the 2 posters shown. He put the same number of stars on each poster, and he used all the stars in the package.



How many stars did Greg put on each poster?

A 28

B 16

C 12

D 7

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Division of Whole Numbers
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
A	21	
B	11	
C	5	
D*	64	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(I) determine if a number is even or odd using divisibility rules

2023 – Q10

Which statement about the number 510 is true?

A It is odd, because it can be divided by 3 evenly.

B It is odd, because the digit in the hundreds place is odd.

C It is even, because it can be divided by 2 evenly.

D It is even, because the digit in the tens place is even.

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Division of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	10	
B	25	
C*	50	
D	15	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(I) determine if a number is even or odd using divisibility rules

2022 – Q28

28 Which statement about the number 27 is true?

F It is even because the digit in the tens place is even.

G It is odd because the digit in the ones place is odd.

H It is even because it can be divided by 9 evenly.

J It is odd because it can be divided by 2 evenly.

***Correct Answer (G)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Division of Whole Numbers
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
F	12	
G*	71	
H	9	
J	8	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.4(J)	RC 2

3.4(J) determine a quotient using the relationship between multiplication and division

2025 – Q2

A store has 45 toy cars in 5 different colors. There are the same number of cars in each color.

Which equation could be used to find the number of cars in each of the 5 colors?

Ⓐ $5 \times 9 = 45$

Ⓑ $5 \times 45 = 225$

Ⓒ $45 - 5 = 40$

Ⓓ $45 + 5 = 50$

***Correct Answer (A)**

Analysis of Assessed Standards	
Cluster	Multiplication and Division of Whole Numbers
Subcluster	Division of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	**68**	
B		
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(J) determine a quotient using the relationship between multiplication and division

2023 – Q27

Ms. Morales made 28 fluid ounces of sugar water to fill the hummingbird feeders in her backyard.

- She put 7 fluid ounces of sugar water into each feeder.
- She put all the sugar water she made into the feeders.

Which equation can be used to find the total number of feeders Ms. Morales filled with sugar water?

Ⓐ $28 - 7 = 21$

Ⓑ $7 \times 4 = 28$

Ⓒ $28 + 4 = 32$

Ⓓ $7 \times 28 = 196$

***Correct Answer (B)**

Analysis of Assessed Standards	
Cluster	Multiplication and Division of Whole Numbers
Subcluster	Division of Whole Numbers
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	25	
B*	49	
C	11	
D	14	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(J) determine a quotient using the relationship between multiplication and division

2022 – Q11

11 Which number sentence can be used to find the number that goes in the box?

$$12 \div 2 = \square$$

A $2 + 12 = 14$

B $6 \times 2 = 12$

C $12 \times 2 = 24$

D $2 + 10 = 12$

***Correct Answer (B)**

Analysis of Assessed Standards	
Cluster	Multiplication and Division of Whole Numbers
Subcluster	Division of Whole Numbers
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
A	4	
B*	71	
C	21	
D	3	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.5(E)	RC 2

3.5(E) represent real-world relationships using number pairs in a table and verbal descriptions

2025 – Q4

Lilah reads 5 books every month. The table shows the total number of books Lilah reads over time.

Lilah's Reading

Number of Months	Books Read
2	10
4	20
6	30

Complete the sentence to describe the relationship in the table.

Choose the correct answer from each drop-down menu to complete the sentence.

The number of months [ ] [ ] is equal to the number of books Lilah reads.

***Correct Answer (times; 5)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Numerical Patterns
Content	Readiness
Process	
Item Type	Inline Choice (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**51**	
No Credit	**24**	
Partial Credit	**26**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(E) represent real-world relationships using number pairs in a table and verbal descriptions

2025 – Q17

The number of classes Ms. Elisha teaches is equal to the number of days she teaches times 6.

Which table shows this relationship?

Ⓐ

Ms. Elisha's Classes

Number of Days	Number of Classes
6	1
18	3
30	5

Ⓒ

Ms. Elisha's Classes

Number of Days	Number of Classes
1	6
3	18
5	30

Ⓑ

Ms. Elisha's Classes

Number of Days	Number of Classes
1	7
2	8
3	9

Ⓓ

Ms. Elisha's Classes

Number of Days	Number of Classes
6	0
18	12
30	24

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Numerical Patterns
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	**51**	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(E) represent real-world relationships using number pairs in a table and verbal descriptions

2024 – Q13

The chef at a restaurant makes 6 burritos with every 1 pound of meat.

Which table shows the relationship between burritos and pounds of meat?

Ⓐ

Burritos Made

Number of Burritos	Pounds of Meat
7	1
8	2
16	10
20	14

Ⓒ

Burritos Made

Number of Burritos	Pounds of Meat
1	6
2	12
10	60
14	84

Ⓑ

Burritos Made

Number of Burritos	Pounds of Meat
6	1
12	2
60	10
84	14

Ⓓ

Burritos Made

Number of Burritos	Pounds of Meat
6	1
12	7
18	13
24	19

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Numerical Patterns
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B*	**48**	
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(E) represent real-world relationships using number pairs in a table and verbal descriptions

2023 – Q19

A pet store has several aquariums. The table shows the relationship between the number of aquariums and the total number of fish at the pet store.

Pet Store Fish

Number of Aquariums	3	5	9	12
Number of Fish	18	30	54	72

Complete the sentence to describe the relationship in the table.

Select the correct answer for each blank from the drop-down menus.

To find the number of fish, [ ] the number of aquariums by [ ]

***Correct Answer (multiply, 6)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Numerical Patterns
Content	Readiness
Process	
Item Type	Inline Choice (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**49**	
No Credit	**30**	
Partial Credit	**21**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(E) represent real-world relationships using number pairs in a table and verbal descriptions

2022 – Q27

27 Shelly needs tickets for rides at an amusement park. The table shows the numbers of tickets needed to ride different numbers of rides.

Amusement Park Rides

Number of Tickets	Number of Rides
6	3
12	6
18	9
24	12

Based on the relationship shown in the table, which statement is true?

A Shelly needs 3 tickets for each ride, because the number of tickets minus 3 equals the number of rides.

B Shelly needs 3 tickets for each ride, because the number of tickets plus 3 equals the number of rides.

C Shelly needs 2 tickets for each ride, because the number of tickets divided by 2 equals the number of rides.

D Shelly needs 2 tickets for each ride, because the number of tickets times 2 equals the number of rides.

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Numerical Patterns
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
A	**21**	
B	**23**	
C*	**37**	
D	**18**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(K) solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts

2025 – Q10

Amy, Carl, and Liz equally share 60 building blocks. Amy divides her share of building blocks into 4 equal piles.

How many building blocks are in each of Amy's piles?

Ⓐ 15

Ⓑ 16

Ⓒ 5

Ⓓ 4

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	**21**	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

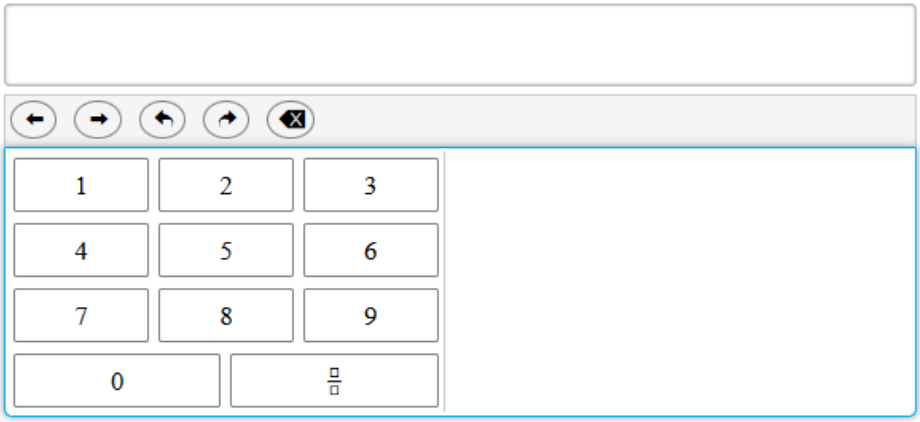
3.4(K) solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts

2025 – Q21

Frank puts 90 pictures in a book. He puts 6 pictures on each page.

How many pages does Frank put pictures on?

Enter your answer in the space provided.



***Correct Answer (15)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Item Type	Equation Editor (1 pt)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**35**	
No Credit	**65**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(K) solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts

2024 – Q20

Steve puts 75 shirts on shelves at a store. He puts 15 shirts on each shelf.

How many shelves does Steve put shirts on?

A 90

B 60

C 5

D 6

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	46	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(K) solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts

2023 – Q15

Martin has 11 cages in his bird store. Each cage can hold 7 birds. The store has 21 birds in its cages.

What is the greatest number of birds Martin can add to his cages?

Ⓐ 98

Ⓑ 56

Ⓒ 17

Ⓓ 39

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	21	
B*	28	
C	24	
D	26	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(K) solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts

2022 – Q14

14 A group of people bought tickets for a roller-coaster ride.

- The group spent $4 for each ticket.
- Altogether the group spent $48 on tickets.
- Each person in the group got 2 tickets.

How many people were in the group?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

***Correct Answer (6)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
6	18*	
	82	

Error Analysis

▢ Guessing ▢ Mixed Up Concepts

▢ Careless Error ▢ Stopped Too Early

Learning from Mistakes Instructional Implications

3.4(K) solve one-step and two-step problems involving multiplication and division within 100 using strategies based on objects; pictorial models, including arrays, area models, and equal groups; properties of operations; or recall of facts

2022 – Q30

30 Alex bought 4 packages of pink golf balls and 2 packages of orange golf balls. There were 12 golf balls in each package.

How many golf balls did Alex buy?

F 72

G 50

H 96

J 18

***Correct Answer (F)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
F*	58	
G	11	
H	12	
J	19	

Error Analysis

▢ Guessing ▢ Mixed Up Concepts

▢ Careless Error ▢ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.5(B)	RC 2

3.5(B) represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

2025 – Q8

There are 12 students in a class.

- Half of the students play an instrument.
- There are an equal number of students who play the guitar, piano, and violin.

Which set of equations can be used to find how many students play the guitar?

Ⓐ $12 \times 2 = 24$

$24 \times 3 = \ ?$

Ⓑ $12 \times 2 = 24$

$24 \div 3 = \ ?$

Ⓒ $12 \div 2 = 6$

$6 \times 3 = \ ?$

Ⓓ $12 \div 2 = 6$

$6 \div 3 = \ ?$

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	38	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

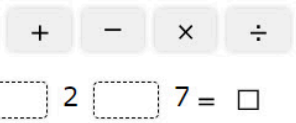
3.5(B) represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

2024 – Q15

A sports complex has 4 basketball courts. There are 2 bags of basketballs for each court. Each bag contains 7 basketballs.

Complete the equation to represent the total number of basketballs at the sports complex.

Move the correct answer to each box. Each answer may be used more than once. Not all answers will be used.



***Correct Answer (x; x)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Item Type	Drag and Drop (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**29**	
No Credit	**22**	
Partial Credit	**49**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(B) represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

2024 – Q26

Eva's flower shop has 72 flowers.

- Eva places an equal number of flowers in 8 vases.
- She sells 3 vases from the flower shop.

Which equation can be used to find how many flowers Eva sells?

Ⓐ $72 \div 8 \div 3 = 3$

Ⓑ $72 - 8 - 3 = 61$

Ⓒ $72 \div 8 \times 3 = 27$

Ⓓ $72 \div 8 + 3 = 12$

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	37	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

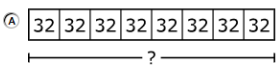
3.5(B) represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

2023 – Q4

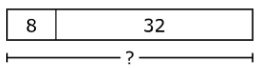
A total of 32 magnets were attached to 8 metal cabinets, and an equal number of the magnets were attached to each cabinet.

Which model can be used to find the number of magnets attached to each cabinet?

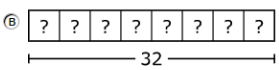
Ⓐ



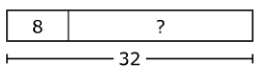
Ⓒ



Ⓑ



Ⓓ



***Correct Answer (B)**

Analysis of Assessed Standards	
Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	**24**	
B*	**40**	
C	**19**	
D	**17**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(B) represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

2023 – Q29

An artist painted 20 skateboards on Saturday. She painted 4 flowers on each skateboard.

Which equation can be used to find the total number of flowers the artist painted on these skateboards?

Ⓐ $20 \times 4 = 80$

Ⓑ $20 \div 4 = 5$

Ⓒ $20 + 4 = 24$

Ⓓ $20 - 4 = 16$

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	54	
B	28	
C	14	
D	4	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.5(B) represent and solve one- and two-step multiplication and division problems within 100 using arrays, strip diagrams, and equations

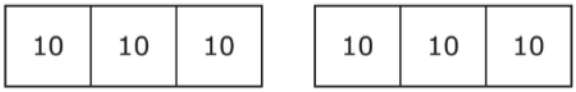
2022 – Q12

12 Janet has 2 new games.

- Each game has 3 packs of cards.
- Each pack has 10 cards.

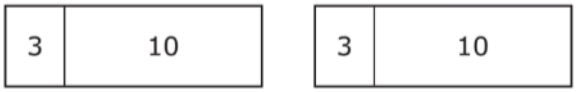
Which model can be used to find the total number of cards Janet has for these 2 games?

F



G

H



J

***Correct Answer (F)**

Analysis of Assessed Standards

Cluster	Multiplication and Division of Whole Numbers
Subcluster	Multiplication and Division of Whole Numbers
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
F*	**71**	
G	**6**	
H	**18**	
J	**5**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

Geometry

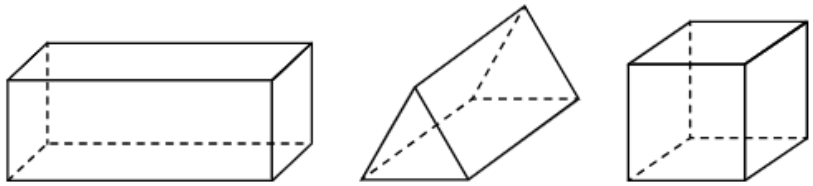
3.6 Geometry and measurement. The student applies mathematical process standards to analyze attributes of two-dimensional geometric figures to develop generalizations about their properties.

IQ Analysis | Investigating the Question	3.6(A)	RC 3

3.6(A) classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

2025 – Q13

A group of figures is shown.



Which statements appear to be true about the group of figures?

Select **TWO** correct answers.

- ☐ All the figures are prisms.
- ☐ All the figures are polygons.
- ☐ All the figures have at least one triangular face.
- ☐ All the figures have zero vertices.
- ☐ All the figures have at least one rectangular face.

***Correct Answer (1st option; 5th option)**

Analysis of Assessed Standards

Cluster	Geometry
Subcluster	Two-Dimensional/Three-Dimensional
Content	Readiness
Process	
Item Type	Multiselect (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**36**	
No Credit	**7**	
Partial Credit	**57**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

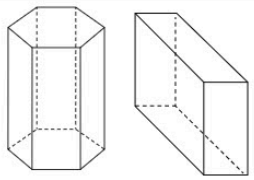
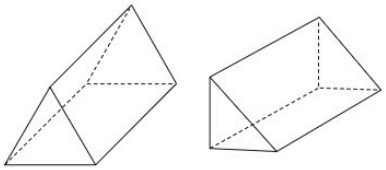
Learning from Mistakes Instructional Implications

3.6(A) classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

2024 – Q27

Rashida groups four figures into two groups.

Rashida's Figures

Group A	
Group B	

How did Rashida group the figures?

Choose the correct answer from each drop-down menu to complete the sentences.

The figures in Group A have [ ] but the figures in Group B do not.

The figures in Group B have [ ] but the figures in Group A do not.

***Correct Answer (more than 5 faces; triangular bases)**

Analysis of Assessed Standards

Cluster	Geometry
Subcluster	Two-Dimensional/Three-Dimensional
Content	Readiness
Process	
Item Type	Inline Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**39**	
No Credit	**14**	
Partial Credit	**47**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

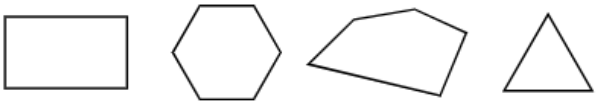
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.6(A) classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

2023 – Q8

A group of figures is shown.



Which statement appears to be true about all the figures in the group?

Ⓐ All the figures are parallelograms.

Ⓑ All the figures are polygons.

Ⓒ All the figures have equal side lengths.

Ⓓ All the figures are prisms.

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Geometry
Subcluster	Two-Dimensional/Three-Dimensional
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	23	
B*	52	
C	12	
D	12	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

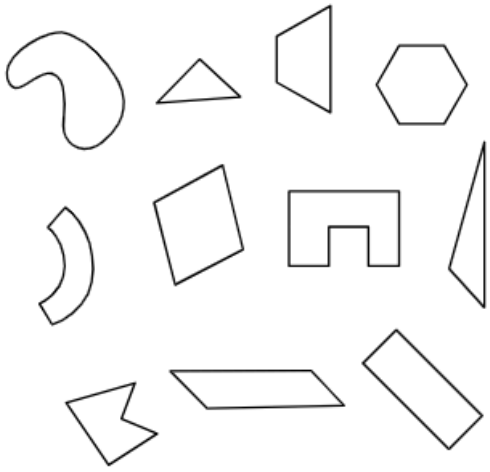
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.6(A) classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

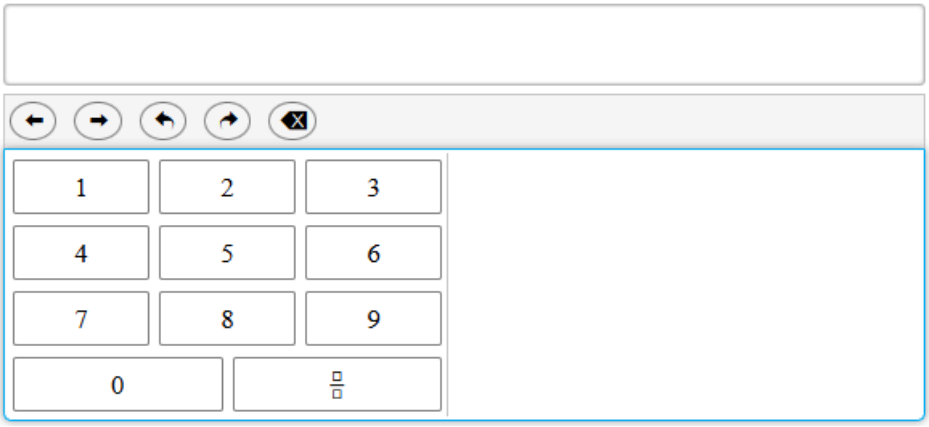
2023 – Q16

Jesse draws 11 shapes, as shown.



How many of the shapes are polygons with more than three sides?

Enter your answer in the space provided.



***Correct Answer (7 and any equivalent values are correct)**

Analysis of Assessed Standards

Cluster	Geometry
Subcluster	Two-Dimensional/Three-Dimensional
Content	Readiness
Process	
Item Type	Equation Editor (1 pt)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**25**	
No Credit	**75**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.6(A) classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

2022 – Q13

13 Leighton made a table that correctly shows the attributes of shapes. She used a check mark to identify the attributes of each shape.

Which table could be the one Leighton made?

A

	□	△	○
Has Vertices	✓	✓	
Quadrilateral	✓	✓	

B

	□	△	○
Has Vertices			✓
Quadrilateral	✓		

C

	□	△	○
Has Vertices	✓	✓	
Quadrilateral	✓		

D

	□	△	○
Has Vertices	✓	✓	
Quadrilateral			

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Geometry
Subcluster	Two-Dimensional/Three-Dimensional
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
A	19	
B	4	
C*	69	
D	8	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

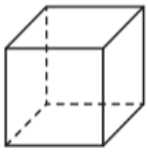
Learning from Mistakes Instructional Implications

3.6(A) classify and sort two- and three-dimensional figures, including cones, cylinders, spheres, triangular and rectangular prisms, and cubes, based on attributes using formal geometric language

2022 – Q22

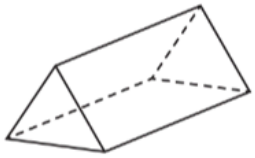
22 Chris built a fort using prisms. Which figure is **NOT** one Chris could have used to build his fort?

F

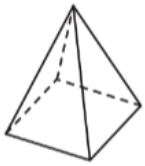


H

G



J



***Correct Answer (J)**

Analysis of Assessed Standards

Cluster	Geometry
Subcluster	Two-Dimensional/Three-Dimensional
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
F	25	
G	13	
H	8	
J*	54	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

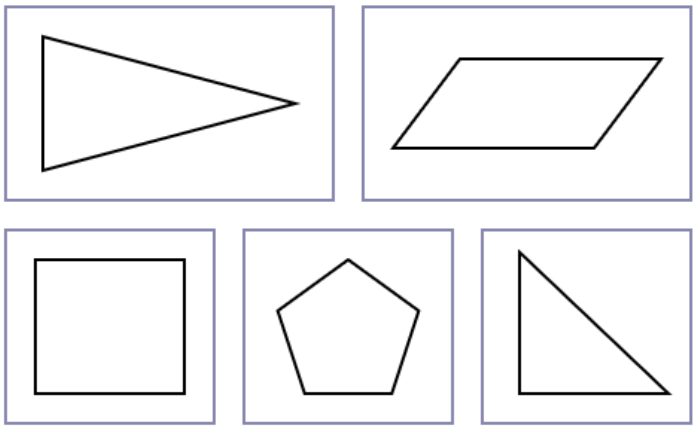
Learning from Mistakes Instructional Implications

3.6(B) use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

2025 – Q7

Which figures are quadrilaterals?

Select **TWO** correct answers.



***Correct Answer (square (bottom left); parallelogram (top right))**

Analysis of Assessed Standards

Cluster	Geometry
Subcluster	Two-Dimensional/Three-Dimensional
Content	Supporting
Process	
Item Type	Hot Spot (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	79	
No Credit	8	
Partial Credit	13	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

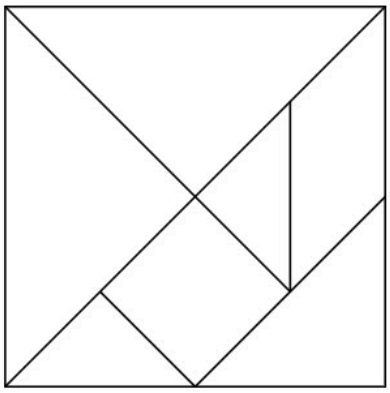
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.6(B) use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

2024 – Q12

Seven pieces of a puzzle are shown.



Which answer choice best describes the two quadrilaterals that are pieces of the puzzle?

Ⓐ Square and parallelogram

Ⓑ Parallelogram and triangle

Ⓒ Square and trapezoid

Ⓓ Triangle and rhombus

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Geometry
Subcluster	Two-Dimensional/Three-Dimensional
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	48	
B		
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

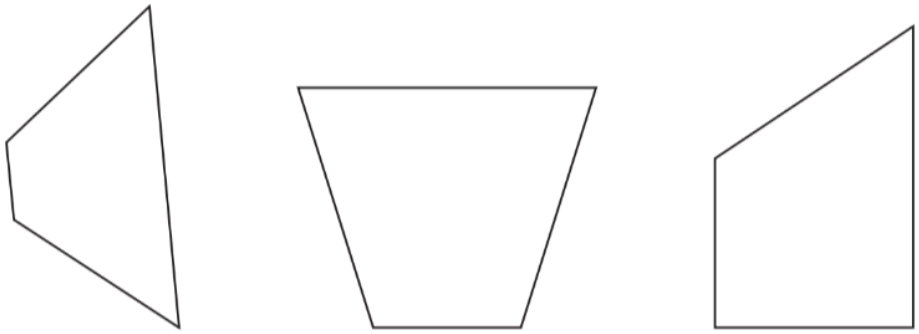
3.6(B) use attributes to recognize rhombuses, parallelograms, trapezoids, rectangles, and squares as examples of quadrilaterals and draw examples of quadrilaterals that do not belong to any of these subcategories

Analysis of Assessed Standards

Cluster	Geometry
Subcluster	Two-Dimensional/Three-Dimensional
Content	Supporting
Process	
Stimulus	

2022 – Q8

8 A group of figures is shown.



Which word best describes all the figures in the group?

F Rectangle

G Rhombus

H Trapezoid

J Parallelogram

***Correct Answer (H)**

Data Analysis

Item	State	Local
F	8	
G	12	
H*	50	
J	30	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

Measurement

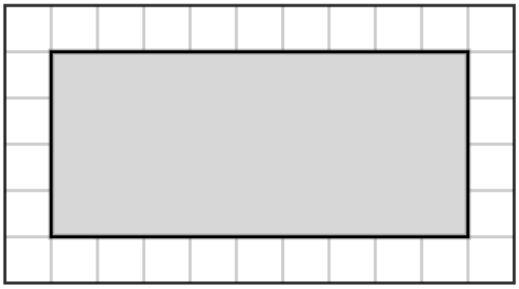
3.7 Geometry and measurement. The student applies mathematical process standards to select appropriate units, strategies, and tools to solve problems involving customary and metric measurement.

Connected Knowledge and Skills 3.6

3.6(C) determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

2025 – Q20

Avalon draws a shaded rectangle on a grid, as shown.



= 1 square centimeter

What is the area of Avalon's shaded rectangle in square centimeters?

Ⓐ 50 square centimeters

Ⓑ 26 square centimeters

Ⓒ 36 square centimeters

Ⓓ 30 square centimeters

*Correct Answer (C)

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Area
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	50	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.6(C) determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

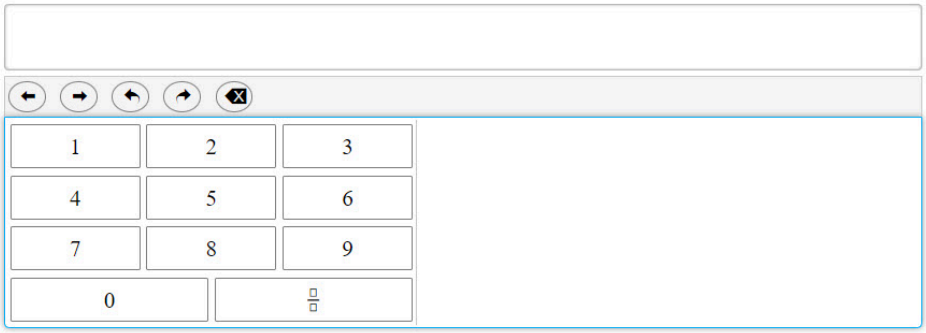
2024 – Q21

Lena draws a rectangle on a grid made of same-sized squares that do not overlap.

- Each square has an area of one square centimeter.
- There are 32 rows in the rectangle.
- Each row has 8 squares.

What is the area of the rectangle in square centimeters?

Enter your answer in the space provided.



***Correct Answer (256)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Area
Content	Readiness
Process	
Item Type	Equation Editor (1 pt)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**31**	
No Credit	**69**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.6(C) determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

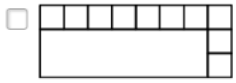
2023 – Q14

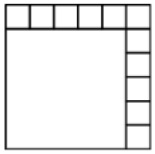
The rectangles shown will be covered with squares.

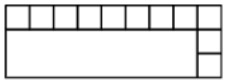
- Each square has an area of 1 square inch.
- Some of the squares have already been placed as shown.

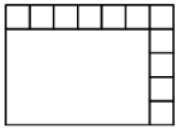
Which rectangles have an area of 24 square inches?

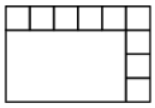
Select **TWO** correct answers.











***Correct Answer (A, E)**

Analysis of Assessed Standards	
Cluster	Measurement
Subcluster	Area
Content	Readiness
Process	
Item Type	Multiselect (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	56	
No Credit	17	
Partial Credit	27	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.6(C) determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

2022 – Q5

5 The rectangular floor of Ms. Ragan's closet is completely covered with carpet squares. Each carpet square covers 1 square foot of the floor. There are 4 rows, and each row has 16 carpet squares.

What is the area of the floor of this closet in square feet?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

***Correct Answer (64)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Area
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
64	53*	
	47	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

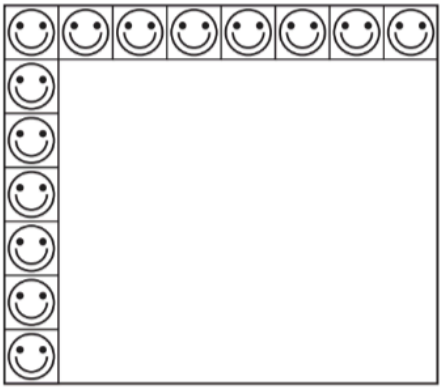
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.6(C) determine the area of rectangles with whole number side lengths in problems using multiplication related to the number of rows times the number of unit squares in each row

2022 – Q18

18 Ms. González is putting square stickers on a rectangular poster. Each sticker has an area of 1 square inch. She has already put some stickers on the poster as shown.



What is the area of the entire poster in square inches?

F 56

G 42

H 48

J 15

***Correct Answer (F)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Area
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
F*	71	
G	9	
H	9	
J	11	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

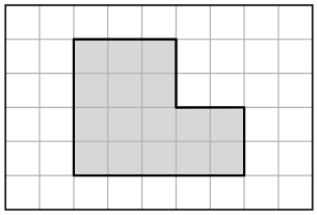
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.6(D) decompose composite figures formed by rectangles into non-overlapping rectangles to determine the area of the original figure using the additive property of area

2023 – Q3

The shaded figure on the grid represents the ceiling of a closet. The ceiling has two rectangular sections.



☐ = 1 square foot

What is the area of the ceiling in square feet?

Ⓐ 12 square feet

Ⓑ 10 square feet

Ⓒ 20 square feet

Ⓓ 16 square feet

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Area
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	8	
B	4	
C	12	
D*	75	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.7(B)	RC 3

3.7(B) determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems

2025 – Q11

Evelyn makes a rectangular birthday card. The card has a length of 9 inches and a width of 6 inches.

What is the perimeter of Evelyn's card in inches?

Ⓐ 15 in.

Ⓑ 30 in.

Ⓒ 36 in.

Ⓓ 54 in.

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Perimeter
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B*	47	
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes
Instructional Implications

3.7(B) determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems

2024 – Q6

Zachary drew these figures. The dimensions of each figure are given in feet.

Figure P

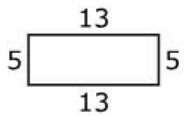


Figure Q

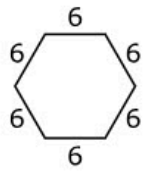


Figure R

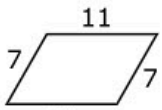


Figure S

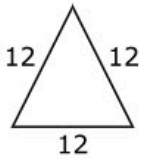
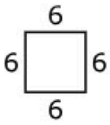


Figure T



Which list shows all the figures that have a perimeter of 36 feet?

Ⓐ Figures P, Q, R, and S only

Ⓑ Figures Q, R, and T only

Ⓒ Figures P, R, and S only

Ⓓ Figures P, Q, R, S, and T

***Correct Answer (A)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Perimeter
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	71	
B		
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.7(B) determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems

2024 – Q18

A rectangular flag has a perimeter of 40 inches and a width of 5 inches.

What is the length of the flag in inches?

Ⓐ 15 in.

Ⓑ 8 in.

Ⓒ 30 in.

Ⓓ 35 in.

***Correct Answer (A)**

Analysis of Assessed Standards	
Cluster	Measurement
Subcluster	Perimeter
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	27	
B		
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.7(B) determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems

2023 – Q21

Vince built a fence around his rectangular garden. The perimeter of the garden is 26 feet. The length of the garden is 8 feet.

What is the width of the garden in feet?

Ⓐ 5 ft

Ⓑ 10 ft

Ⓒ 8 ft

Ⓓ 16 ft

***Correct Answer (A)**

Analysis of Assessed Standards	
Cluster	Measurement
Subcluster	Perimeter
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A*	27	
B	21	
C	19	
D	34	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

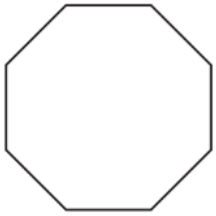
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.7(B) determine the perimeter of a polygon or a missing length when given perimeter and remaining side lengths in problems

2022 – Q16

16 Each side of this figure is the same length. The perimeter of the figure is 72 inches.



What is the length of one side of the figure in inches?

F 8 in.

G 12 in.

H 9 in.

J 18 in.

***Correct Answer (H)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Perimeter
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
F	33	
G	11	
H*	46	
J	10	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.7(C)	RC 3

3.7(C) determine the solutions to problems involving addition and subtraction of time intervals in minutes using pictorial models or tools such as a 15-minute event plus a 30-minute event equals 45 minutes

2025 – Q26

Gemma reads a book for 1 hour and 20 minutes. She finishes reading at 7:13 p.m. as shown on the clock.

What time did Gemma start reading her book?

Ⓐ 6:13 p.m.

Ⓑ 5:53 p.m.

Ⓒ 8:33 p.m.

Ⓓ 6:53 p.m.

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Time
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B*	41	
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes
Instructional Implications

IQ Analysis | Investigating the Question	3.7(D)	RC 3

3.7(D) determine when it is appropriate to use measurements of liquid volume (capacity) or weight

2024 – Q29

Guadalupe has a bottle of juice.

Which unit of measurement could be used to measure the volume of juice in the bottle?

Ⓐ Pounds

Ⓑ Feet

Ⓒ Centimeters

Ⓓ Liters

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Liquid Capacity/Weight
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	61	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

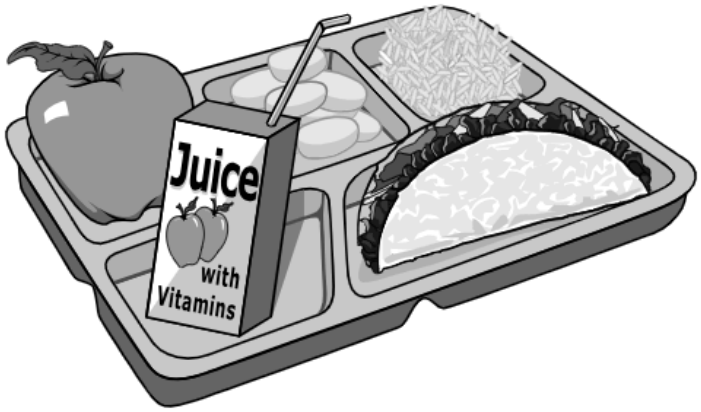
Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.7(E)	RC 3

3.7(E) determine liquid volume (capacity) or weight using appropriate units and tools

2023 – Q6

Hannah gets a juice box like the one shown when she buys a lunch.



Which measurement is closest to the amount of juice in a full juice box?

Ⓐ 2 milliliters

Ⓑ 200 milliliters

Ⓒ 2 liters

Ⓓ 200 liters

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Measurement
Subcluster	Liquid Capacity/Weight
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	31	
B*	28	
C	33	
D	8	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes
Instructional Implications

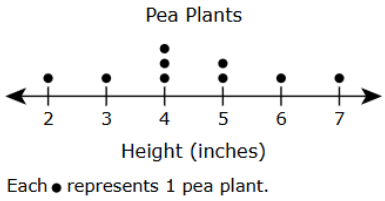
Data Analysis

3.8 Data analysis. The student applies mathematical process standards to solve problems by collecting, organizing, displaying, and interpreting data.

3.8(A) summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2025 – Q5

A student measures the heights of some pea plants in inches. The dot plot shows his data.



Which list represents the heights of the pea plants in inches?

Ⓐ 2 3 4 4 4 5 5 6 6 7

Ⓑ 2 3 4 4 4 5 5 6 7

Ⓒ 2 3 4 4 5 5 6 7

Ⓓ 2 3 4 5 6 7

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Data Analysis
Subcluster	Representation of Data
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B*	**77**	
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

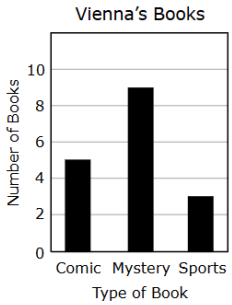
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.8(A) summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2025 – Q12

Vienna creates a bar graph and a pictograph to show what types of books she owns. She has 5 comic books, 9 mystery books, and 3 sports books. She makes an error in one of the graphs, as shown.



Which graph has the error?

Ⓐ Bar graph, because the bar for mystery books should be at 9

Ⓑ Pictograph, because the row for mystery books should have 4 whole symbols and one half symbol

Ⓒ Bar graph, because the bar for sports books should be at 4

Ⓓ Pictograph, because the row for sports books should have one whole symbol and one half symbol

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Data Analysis
Subcluster	Representation of Data
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	**52**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

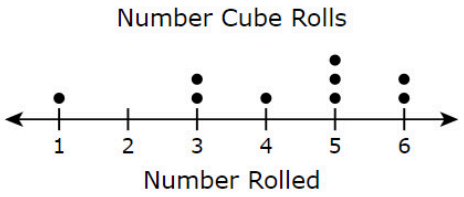
3.8(A) summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2024 – Q3

Ben rolls a number cube 10 times and records the results shown.

6 3 5 4 4 1 5 3 6 5

He then creates the dot plot shown with the results.



Each ● means 1 roll.

Complete the sentence by selecting the correct answers from the drop-down menus.

Ben's dot plot is incorrect because there should be [ ] above the number [ ]

***Correct Answer (2 dots; 4)**

Analysis of Assessed Standards

Cluster	Data Analysis
Subcluster	Representation of Data
Content	Readiness
Process	
Item Type	Inline Choice (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	52	
No Credit	26	
Partial Credit	22	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.8(A) summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2024 – Q19

A restaurant sells four sizes of pizza. The table shows the pizzas sold.

Pizzas Sold

Size	Number
Small	4
Medium	10
Large	18
Extra large	8

Which pictograph shows the data in the table?

(A)

Pizzas Sold

Size	Number
Small	
Medium	
Large	
Extra large	

Each represents 4 pizzas.

(C)

Pizzas Sold

Size	Number
Small	
Medium	
Large	
Extra large	

Each represents 4 pizzas.

(B)

Pizzas Sold

Size	Number
Small	
Medium	
Large	
Extra large	

Each represents 4 pizzas.

(D)

Pizzas Sold

Size	Number
Small	
Medium	
Large	
Extra large	

Each represents 4 pizzas.

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Data Analysis
Subcluster	Representation of Data
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	74	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

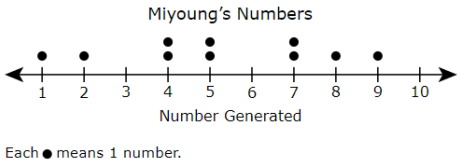
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.8(A) summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2023 – Q11

Miyoung uses a computer to randomly generate numbers between 1 and 10. The results are shown in the dot plot.



Each ● means 1 number.

Which list of numbers represents Miyoung's results?

Ⓐ 1 2 4 5 7 8 9

Ⓑ 1 2 3 4 5 6 7 8 9 10

Ⓒ 1 2 4 5 7 8 9 10

Ⓓ 1 2 4 4 5 5 7 7 8 9

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Data Analysis
Subcluster	Representation of Data
Content	Readiness
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A	**38**	
B	**15**	
C	**3**	
D*	**44**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.8(A) summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2023 – Q22

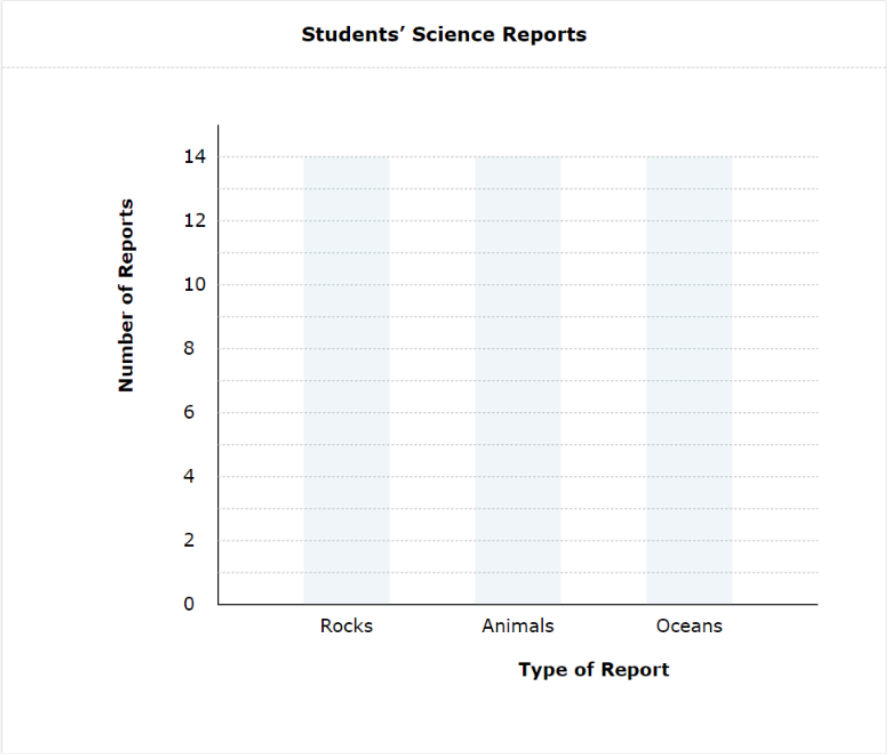
The table shows the number of each type of science report that third-grade students completed.

Students' Science Reports

Type of Report	Number of Reports
Rocks	6
Animals	12
Oceans	9

Complete the bar graph to show the data in the table.

Select the correct height for each bar in the graph.



***Correct Answer (Rocks: bar at 6, Animals: bar at 12, Oceans: bar at 9)**

Analysis of Assessed Standards

Cluster	Data Analysis
Subcluster	Representation of Data
Content	Readiness
Process	
Item Type	Graphing (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**79**	
No Credit	**8**	
Partial Credit	**13**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.8(A) summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2022 – Q6

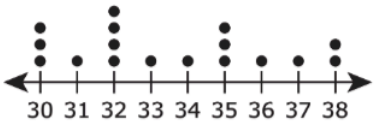
6 The numbers listed show the speed in miles per hour Henry pitched a baseball.

30, 32, 38, 30, 33, 34, 32, 35, 38, 36, 35, 32, 30, 32, 35

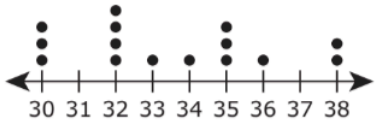
Which dot plot represents the speed of Henry's pitches?

F

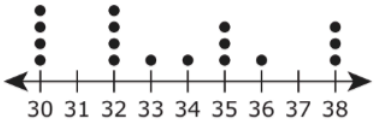
H



G



J



***Correct Answer (G)**

Analysis of Assessed Standards

Cluster	Data Analysis
Subcluster	Representation of Data
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
F	6	
G*	71	
H	14	
J	9	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

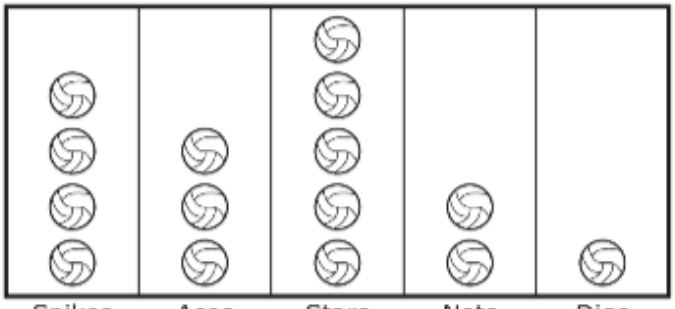
Learning from Mistakes Instructional Implications

3.8(A) summarize a data set with multiple categories using a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2022 – Q31

31 The pictograph shows the number of games each team in a volleyball league won during one season.

Volleyball Games Won



Each ⚽ means 3 games won.

Which table represents the data in the pictograph?

A

Volleyball Games Won

Team	Spikes	Aces	Stars	Nets	Digs
Number of Games Won	12	15	9	6	3

B

Volleyball Games Won

Team	Spikes	Aces	Stars	Nets	Digs
Number of Games Won	4	3	5	2	1

C

Volleyball Games Won

Team	Spikes	Aces	Stars	Nets	Digs
Number of Games Won	12	9	15	6	3

D

Volleyball Games Won

Team	Spikes	Aces	Stars	Nets	Digs
Number of Games Won	4	5	3	2	1

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Data Analysis
Subcluster	Representation of Data
Content	Readiness
Process	
Stimulus	

Data Analysis

Item	State	Local
A	6	
B	15	
C*	77	
D	2	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

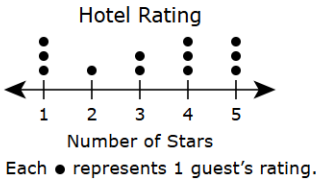
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.8(B) solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2025 – Q28

The owner of a hotel asks guests to rate the hotel on a scale of 1 to 5 stars. The data are shown in the dot plot.



How many guests rated the hotel fewer than 3 stars?

Ⓐ 2

Ⓑ 3

Ⓒ 6

Ⓓ 4

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Data Analysis
Subcluster	Interpretation of Data
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	**33**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

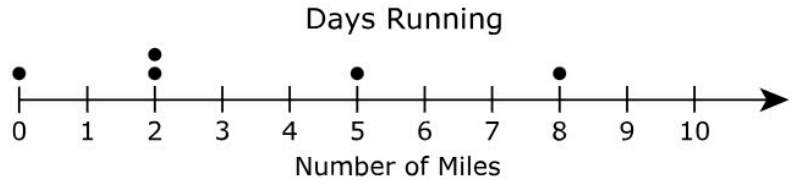
☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.8(B) solve one- and two-step problems using categorical data represented with a frequency table, dot plot, pictograph, or bar graph with scaled intervals

2024 – Q14

The dot plot shows the numbers of miles Joseph ran on five days. Joseph ran on one more day, but the dot is missing from the dot plot.



Joseph ran a total of 25 miles during the six days. How many miles did Joseph run on the sixth day?

Ⓐ 6

Ⓑ 8

Ⓒ 17

Ⓓ 10

***Correct Answer (B)**

Analysis of Assessed Standards	
Cluster	Data Analysis
Subcluster	Interpretation of Data
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B*	32	
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

Personal Financial Literacy

3.9 Personal financial literacy. The student applies mathematical process standards to manage one's financial resources effectively for lifetime financial security.

IQ Analysis | Investigating the Question	3.9(E)	RC 4

3.9(E) list reasons to save and explain the benefit of a savings plan, including for college

2023 – Q5

What are some benefits of saving money?

Select **TWO** correct answers.

- ☐ To increase debt
- ☐ To increase interest on monthly bills
- ☐ To prepare to pay for college
- ☐ To help spend money faster
- ☐ To help pay for unplanned needs

***Correct Answer (C, E)**

Analysis of Assessed Standards

Cluster	Personal Financial Literacy
Subcluster	Earning, Spending, and Saving
Content	Supporting
Process	
Item Type	Multiselect (2 pts)
Stimulus	

Data Analysis

Item	State	Local
Full Credit	**38**	
No Credit	**15**	
Partial Credit	**47**	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.9(D)	RC 4

3.9(D) explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest

2025 – Q22

Which statement is an example of using credit?

Ⓐ Paying sales tax at a restaurant

Ⓑ Saving part of your income in a bank

Ⓒ Using cash to pay for a book

Ⓓ Getting a loan to pay for a car

***Correct Answer (D)**

Analysis of Assessed Standards

Cluster	Personal Financial Literacy
Subcluster	Borrowing
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C		
D*	29	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.9(D) explain that credit is used when wants or needs exceed the ability to pay and that it is the borrower's responsibility to pay it back to the lender, usually with interest

2024 – Q24

Which statement is an example of using credit?

Ⓐ Dante saves $100 per paycheck.

Ⓑ Baylee budgets $85 for groceries each week.

Ⓒ Maria borrows $400 for car repairs.

Ⓓ Nina earns $250 in tips at work.

***Correct Answer (C)**

Analysis of Assessed Standards

Cluster	Personal Financial Literacy
Subcluster	Borrowing
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B		
C*	30	
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.9(A)	RC 4

3.9(A) explain the connection between human capital/labor and income

2022 – Q4

4 Trey is describing his labor and income. Which statement could be a description of both labor and income for Trey?

F Trey does volunteer work at a hospital.

G Trey pays a company to repair his roof.

H Trey takes $25 out of his bank account and spends the money at a store.

J Trey takes dogs for a walk after school and earns $25.

***Correct Answer (J)**

Analysis of Assessed Standards

Cluster	Personal Financial Literacy
Subcluster	Economics
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
F	24	
G	10	
H	17	
J*	49	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	3.9(B)	RC 4

3.9(B) describe the relationship between the availability or scarcity of resources and how that impacts cost

2024 – Q5

Farmers planted more orange trees, resulting in an increase in the orange crop this year. This will affect the price of oranges.

Which statement best describes the effect on the price of oranges this year?

Ⓐ The price will likely increase because there are more oranges for sale.

Ⓑ The price will likely decrease because there are more oranges for sale.

Ⓒ The price will likely increase because there are fewer oranges for sale.

Ⓓ The price will likely decrease because there are fewer oranges for sale.

***Correct Answer (B)**

Analysis of Assessed Standards

Cluster	Personal Financial Literacy
Subcluster	Economics
Content	Supporting
Process	
Item Type	Multiple Choice (1 pt)
Stimulus	

Data Analysis

Item	State	Local
A		
B*	44	
C		
D		

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

3.9(B) describe the relationship between the availability or scarcity of resources and how that impacts cost

2022 – Q20

20 Dahlia sold pineapples at a fruit stand. The table shows the number of pineapples Dahlia had for sale each week and the number of customers she expected to come to her fruit stand.

Dahlia's Pineapples

	Week 1	Week 2	Week 3	Week 4
Number of Pineapples	110	150	200	25
Number of Expected Customers	50	150	40	50

In which week did Dahlia most likely sell her pineapples for the highest price?

F Week 1, because the number of pineapples was greater than the expected number of customers

G Week 2, because the number of pineapples was the same as the expected number of customers

H Week 3, because fewer customers were expected to come to the fruit stand this week than any other week

J Week 4, because the number of pineapples was less than the expected number of customers

***Correct Answer (J)**

Analysis of Assessed Standards

Cluster	Personal Financial Literacy
Subcluster	Economics
Content	Supporting
Process	
Stimulus	

Data Analysis

Item	State	Local
F	9	
G	38	
H	33	
J*	20	

Error Analysis

☐ Guessing ☐ Mixed Up Concepts

☐ Careless Error ☐ Stopped Too Early

Learning from Mistakes Instructional Implications

IQ Analysis | Investigating the Question	SE	RC
Units		

	Analysis of Assessed Standards
	Cluster
	Subcluster
	Content
	Process
	Item Type
	Stimulus

Data Analysis

Item	State	Local

Error Analysis

- ☐ Guessing
- ☐ Careless Error
- ☐ Stopped Too Early
- ☐ Mixed Up Concepts

Learning from Mistakes
Instructional Implications

*** Correct Answer ( )**

	Analysis of Assessed Standards
	Cluster
	Subcluster
	Content
	Process
	Item Type
	Stimulus

Data Analysis

Item	State	Local

Error Analysis

- ☐ Guessing
- ☐ Careless Error
- ☐ Stopped Too Early
- ☐ Mixed Up Concepts

Learning from Mistakes
Instructional Implications

*** Correct Answer ( )**