Part II: Grade 4

- Test Blueprint
- Test Content
- Sample Items
- Vocabulary List

EDITOR'S NOTE: Some scored student work may contain labeling elements used when the items were pilot tested. These labeling elements are separate and distinct from and are not a part of the test items themselves.

Connecticut Mastery Test – Fourth Generation

Mathematics Grade 4 Test Blueprint

Content Standards and Strands	# of multiple-choice items	# of open-ended items
Numerical and Proportional Reasoning		
1. Place Value	**6**	
2. Pictorial Representations of Numbers	**4**	**2**
3. Equivalent Fractions, Decimals and Percents	**4**	
4. Order, Magnitude and Rounding of Numbers	**6**	
5. Models for Operations	**4**	**2**
6. Basic Facts	**6**	
7. Computation with Whole Numbers and Decimals	**6**	
8. Computation with Fractions and Integers	**4**	
9. Solve Word Problems	**4**	
10. Numerical Estimation Strategies	**4**	
11. Estimating Solutions to Problems	**4**	
12. Ratios and Proportions	**NT**	**NT**
13. Computation with Percents	**NT**	**NT**
Geometry and Measurement		
14. Time	**4**	
15. Approximating Measures	**6**	
16. Customary and Metric Measures	**2**	**2**
17. Geometric Shapes and Properties	**2**	**2**
18. Spatial Relationships	**NT**	**NT**
Working with Data: Probability and Statistics		
19. Tables, Graphs and Charts	**2**	**2**
20. Statistics and Data Analysis	**NT**	**NT**
21. Probability	**4**	
24. Classification and Logical Reasoning	**2**	**2**
Algebraic Reasoning: Patterns and Functions		
22. Patterns	**2**	**2**
23. Algebraic Concepts	**4**	
Integrated Understandings		
25. Mathematical Applications		**2**
TOTAL	**80**	**16**

* NT = Strand not tested at this grade level.

Connecticut Mastery Test – Fourth Generation
Mathematics Grade 4 Content

Strand	Grade 4 Concepts/Skills Assessed
1. Place Value	A. Solve problems involving 10 MORE/LESS or 100 MORE/LESS than a given number. B. Identify alternative forms of expressing whole numbers ‹1000 using expanded notation. C. Identify alternative forms of expressing whole numbers ‹1000 using regrouping. D. Use place value concepts to identify and compare the magnitude and value of digits in 2- and 3-digit numbers.
2. Pictorial Representation of Numbers	A. Relate fractions and decimals to pictorial representations and vice versa. B. Relate fractions of regions and sets to pictures and vice versa. C. Label and/or shade fractional parts of regions and/or sets.
3. Equivalent Fractions, Decimals and Percents	A. Relate equivalent fractions to pictorial representations.
4. Order, Magnitude and Rounding of Numbers	A. Order whole numbers ‹10,000. B. Describe magnitude of 2- and 3-digit whole numbers, fractions, mixed numbers and decimals (tenths). C. Round 2- and 3-digit whole numbers in context. D. Identify points representing 2- and 3-digit whole numbers, fractions (halves, thirds, fourths) and decimals (tenths) on a number line and vice versa.
5. Models for Operations	A. Identify members of multiplication and division fact families from arrays (factors of 2, 3, 4, 5 and 10). B. Identify the appropriate operation or number sentence to solve a story problem (2-digit numbers). C. Write a story problem that matches a given addition, subtraction or multiplication sentence. Use 1- and 2- digit numbers for addition and subtraction. Use 1-digit factors for multiplication.
6. Basic Facts	A. Find the missing product in a multiplication equation where one factor is 2, 3, 4, 5 or 10. B. Find the missing factor in a division equation where one factor is 2, 3, 4, 5 or 10.
7. Computation with Whole Numbers and Decimals	A. Add and subtract 2- and 3-digit whole numbers and money amounts less than $10 with and without regrouping. B. Multiply and divide 2-digit whole numbers by one digit.
8. Computation with Fractions and Integers	A. Add and subtract fractions with like denominators.
9. Solve Word Problems	A. Solve one-step story problems involving whole numbers and money amounts. Use 2- and 3-digit numbers in addition and subtraction problems. Use 1- and 2-digit numbers in multiplication problems. B. Solve one-step story problems involving addition or subtraction with extraneous information. Use 2-and 3-digit numbers in addition and subtraction problems.
10. Numerical Estimation Strategies	A. Identify the best expression to find an estimate.
11. Estimating Solutions to Problems	A. Identify a reasonable estimate to a problem, including estimating change from $1, $5 and $10.
12. Ratios and Proportions	Not tested

Strand	Grade 4 Concepts/Skills Assessed
13. Computation with Percents	Not tested
14. Time	A. Solve problems involving time, elapsed time (minutes and hours) and calendars. B. Solve problems involving conversions of measures of time.
15. Approximating Measures	A. Estimate lengths and areas by comparing.
16. Customary and Metric Measures	A. Measure lengths to the nearest inch, half-inch or centimeter. B. Draw lengths to the nearest inch, half-inch or centimeter. C. Identify appropriate customary or metric units of measure for a given situation.
17. Geometric Shapes and Properties	A. Identify 2-dimensional geometric shapes, including number of angles and sides of polygons. B. Identify, describe and draw 2-dimensional geometric shapes and figures.
18. Spatial Relationships	Not tested
19. Tables, Graphs and Charts	A. Identify correct information from tables, bar graphs, pictographs and charts. B. Create bar graphs and pictographs from data in tables and charts.
20. Statistics and Data Analysis	Not tested
21. Probability	A. Identify correct solutions to problems involving elementary notions of probability.
22. Patterns	A. Identify the missing terms in a pattern, or identify rules for a given pattern using whole numbers and attributes. B. Extend or complete patterns and state rules for given patterns using whole numbers and attributes.
23. Algebraic Concepts	A. Solve simple one-step algebraic equations involving addition, subtraction and fact families.
24. Classification and Logical Reasoning	A. Solve logic, counting and classification problems involving the organization of data. B. Sort or classify objects, and draw logical conclusions from data including Venn diagrams and transitive reasoning questions.
25. Mathematical Applications	A. Solve extended numerical and statistical problems.

GRADE 4 SAMPLE ITEMS

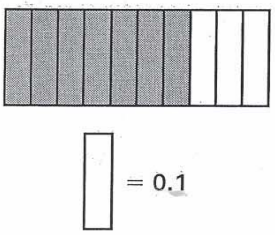
1. Place Value - MC

A store had 375 customers last week. This week, there were 100 **more** customers than last week. How many customers visited the store this week?

- ○ 275
- ○ 365
- ○ 455
- ◉ 475

2. Pictorial Representations of Numbers - MC

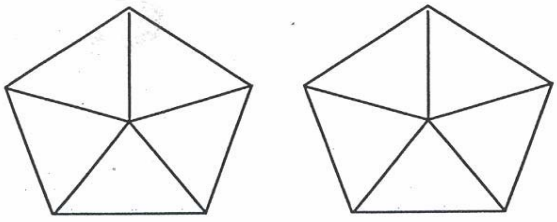
The shaded part of this figure shows which decimal?



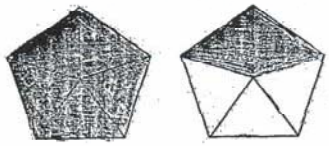
- ○ 0.73
- ○ 0.37
- ◉ 0.7
- ○ 0.3

2. Pictorial Representations of Numbers - OE

Shade in $1\frac{2}{5}$ of this set of shapes.

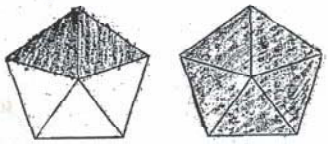


S1A Shade in $1\frac{2}{5}$ of this set of shapes.



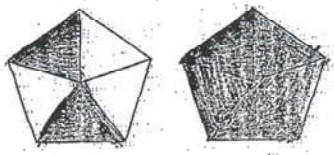
1

S1B Shade in $1\frac{2}{5}$ of this set of shapes.



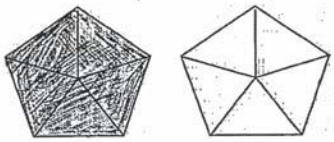
1

S1C Shade in $1\frac{2}{5}$ of this set of shapes.



1

S1D Shade in $1\frac{2}{5}$ of this set of shapes.



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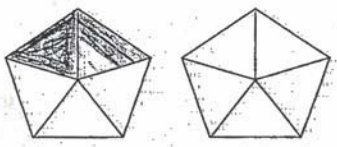
S1E Shade in $1\frac{2}{5}$ of this set of shapes.



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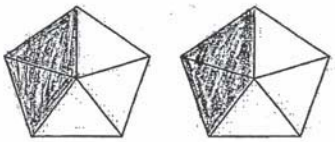
S1F Shade in $1\frac{2}{5}$ of this set of shapes.



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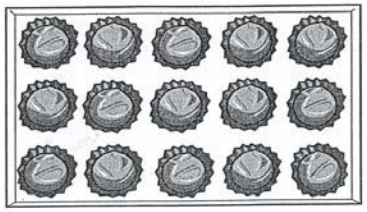
3. Equivalent Fractions, Decimals and Percents - MC

There are 15 chocolates in a box. Nuts are in $\frac{1}{3}$ of the chocolates.



Which is another way to write $\frac{1}{3}$?

- ○ $\frac{3}{15}$
- ◉ $\frac{5}{15}$
- ○ $\frac{10}{15}$
- ○ $\frac{12}{15}$

4. Order, Magnitude and Rounding of Numbers - MC

8 The table below shows information about birds treated at a rescue shelter.

Birds Treated

Month	Number of Birds Treated
April	309
May	278
June	296
July	407

Which shows the months from **least** to **greatest** number of birds treated?

- ○ July, April, May, June
- ○ May, June, July, April
- ◉ May, June, April, July
- ○ June, May, April, July

5. Models for Operations - MC

A classroom received 4 boxes of new books. Each box contained 15 books. Which number sentence could be used to find out how many books were in all the boxes?

- ○ 15 + 4 = □
- ○ 15 – 4 = □
- ◉ 15 x 4 = □
- ○ 15 ÷ 4 = □

5. Models for Operations - OE

Write a story problem that can be solved using the number sentence 23 × 2 = □.

S2A Write a story problem that can be solved using the number sentence 23 × 2 = □.

I made 2 baches of 23 coakies for a picnic how many coakies do I have all together.

Answer 46

2

S2B Write a story problem that can be solved using the number sentence 23 × 2 = □.

There were 23 bags there were 2 apples in each one. How many apples total?

2

S2C Write a story problem that can be solved using the number sentence 23 × 2 = □.

I have 23 papers my teacher gave me 23 more now I have 46 papers

2

S2D Write a story problem that can be solved using the number sentence 23 × 2 = □.

I had 23 people at my Party, I needed to seperate them in 2 groups for the Candy hunt. How many people will be in 1 group? 1

S2E Write a story problem that can be solved using the number sentence 23 × 2 = □.

I have 23 boxes I put 2 cookies in each box. How many cookies do I have in each box? 1

S2F Write a story problem that can be solved using the number sentence 23 × 2 = □.

I had 23 books and 2 shelves how many books will go on each shelf? 1

S2G Write a story problem that can be solved using the number sentence 23 × 2 = □.

I have 23 math papers and 2 spelling papers each. How many days do I have to do them?

23 × 2 = 69 days

0

S2H Write a story problem that can be solved using the number sentence 23 × 2 = □.

There 23 cars I want more how many more will I have.

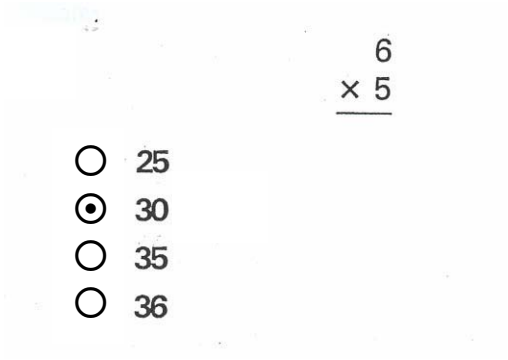
0

S2I Write a story problem that can be solved using the number sentence 23 × 2 = □.

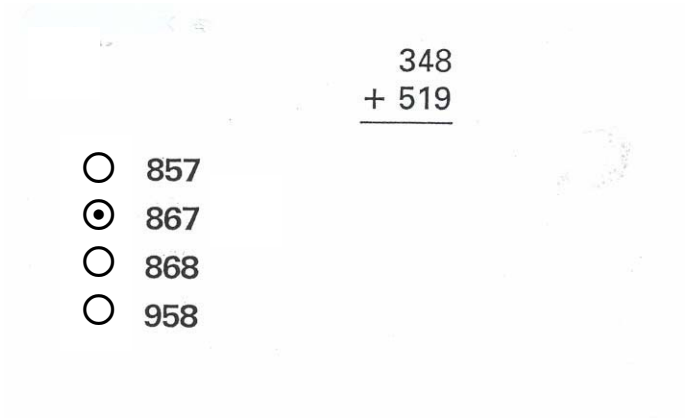
I had 23 dollars I gave two to Jana now I have 21 dollars left.

0

6. Basic Facts - MC



7. Computation with Whole Numbers and Decimals - MC



8. Computations with Fractions and Integers - MC

$$\begin{array}{r} \frac{7}{10} \\ -\ \frac{4}{10} \\ \hline \end{array}$$

- ○ $\frac{3}{1}$
- ○ $\frac{11}{10}$
- ○ $\frac{10}{11}$
- ⊙ $\frac{3}{10}$

9. Solve Word Problems - MC

Sarah and her mom visited the zoo on Saturday. It cost $8.50 for her mom's ticket and $4.25 for Sarah's ticket. What was the total cost of the tickets?

- ○ $12.95
- ○ $12.85
- ⊙ $12.75
- ○ $ 4.25

10. Numerical Estimation Strategies - MC

Lance is buying a bike. One type costs $148 and another type costs $171. Which of the following would be **best** for Lance to use to **estimate** the difference in price between the two bikes?

- ○ $170 − $140
- ⊙ $170 − $150
- ○ $180 − $140
- ○ $180 − $150

11. Estimating Solutions to Problems - MC

Tanya bought a sandwich for $3.85 and a drink for $1.95. Which of the following would be a reasonable **estimate** of the amount Tanya spent?

- ○ a little less than $5
- ○ a little more than $5
- ⦿ a little less than $6
- ○ a little more than $6

11. Estimating Solutions to Problems - MC

Sam ran between 8 and 15 miles a week for 5 weeks. **About** how many miles could he have run?

- ⦿ 50
- ○ 80
- ○ 100
- ○ 130

14. Time - MC

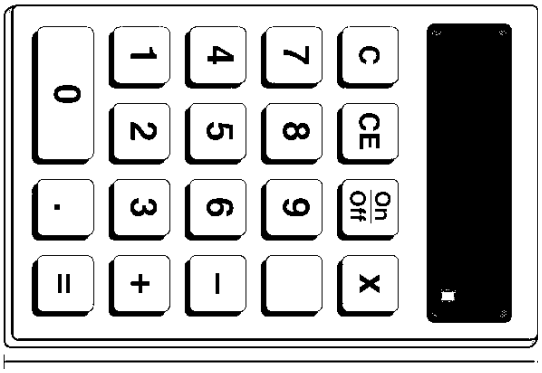
Sun	Mon	Tues	Wed	Thur	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Tina had a bike race on the second Tuesday of the month shown above.
What date was that?

- ○ January 2
- ⦿ January 9
- ○ January 10
- ○ January 16

15. Approximating Measures - MC

The paper clip is 3 units long



About how many units long is the calculator?

- ○ 6
- ◉ 9
- ○ 12
- ○ 15

16. Customary and Metric Measures - OE

Use your ruler to draw a line segment that is 7 centimeters long.

16. Customary and Metric Measures - OE

Use your ruler to measure the line segment to the **nearest** half-inch.

Length: _____

S2A Use your ruler to measure the line segment to the **nearest** half-inch.

Length: $3\frac{1}{2}$ inches

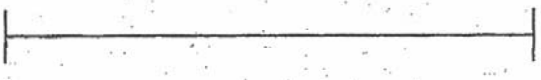
1

S2B Use your ruler to measure the line segment to the **nearest** half-inch.

Length: 3 1/2

1

S2C Use your ruler to measure the line segment to the **nearest** half-inch.



Length: 3 ½ inches long

1

S2D Use your ruler to measure the line segment to the **nearest** half-inch.

Length: 4 2/4

0

S2E Use your ruler to measure the line segment to the **nearest** half-inch.

Length: 3 inches

0

S2F Use your ruler to measure the line segment to the **nearest** half-inch.

Length: 3/1

0

16. Customary and Metric Measures - MC

The length of a pencil is **best** measured in

- ○ yards.
- ○ feet.
- ○ meters.
- ◉ inches.

17. Geometric Shapes and Properties - MC

What is the name of a polygon that has 6 angles?

- ○ Octagon
- ◉ Hexagon
- ○ Pentagon
- ○ Trapezoid

17. Geometric Shapes and Properties - OE

Draw a parallelogram. Then explain why the shape you drew is a parallelogram.

S3A Draw a parallelogram. Then explain why the shape you drew is a parallelogram.

This shape is a parallelogram because it has two ~~sets~~ of paralle lines.

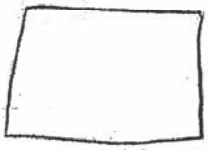
2

S3B Draw a parallelogram. Then explain why the shape you drew is a parallelogram.

It has to have two pair of parallel lines in it.

2

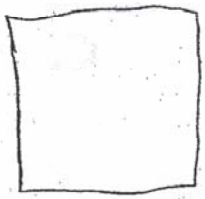
S3C Draw a parallelogram. Then explain why the shape you drew is a parallelogram.



This shape is a parallelogram because it has parallel sides on each side.

2

S3D Draw a parallelogram. Then explain why the shape you drew is a parallelogram.



The square I drew is a parallelogram because it has 4 lines and all 4 lines are parallel to eachother.

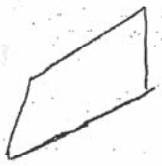
1

S3E Draw a parallelogram. Then explain why the shape you drew is a parallelogram.

IT's a Parallelogram because all the lines are Parallel.

1

S3F Draw a parallelogram. Then explain why the shape you drew is a parallelogram.



A parallelogram is a shape with two parailes.

1

S3G Draw a parallelogram. Then explain why the shape you drew is a parallelogram.

Its a parallelogram because it has 3 angles that are even

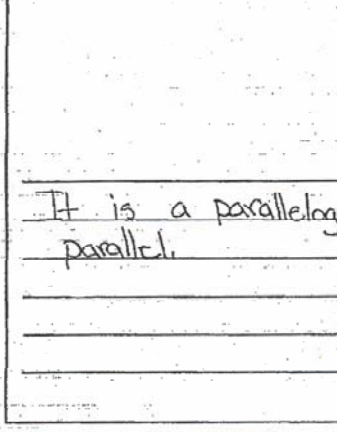
0

S3H Draw a parallelogram. Then explain why the shape you drew is a parallelogram.

This shape is a parallelogram because it has sids that does not open.

0

S3I Draw a parallelogram. Then explain why the shape you drew is a parallelogram.

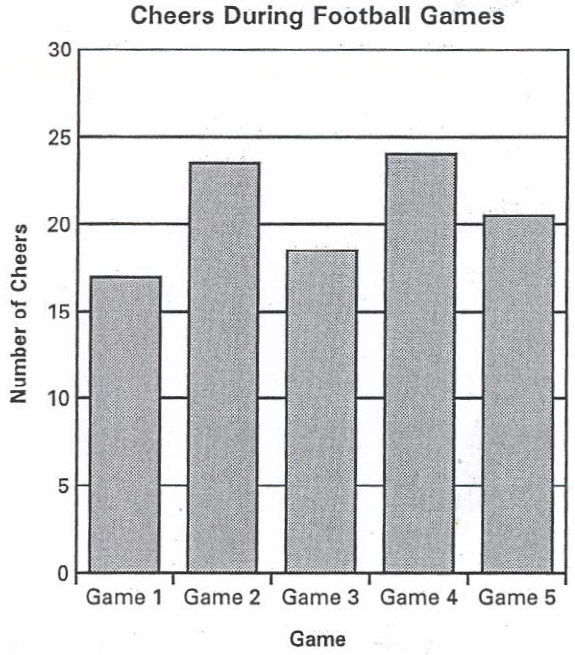


It is a parallelogram because the lines are parallel.

0

19. Tables, Graphs and Charts - MC

Mrs. Kendall made a **bar** graph of the number of cheers performed during several different football games.



How many cheers were performed in Game 4?

- ○ 25
- ◉ 24
- ○ 22
- ○ 19

19. Tables, Graphs and Charts - OE

This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	
Carlos	
Dimitri	
Maria	

Each ◇ = 2 states

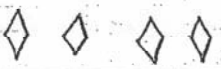
S3A This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	
Carlos	
Dimitri	
Maria	

Each  = 2 states

2

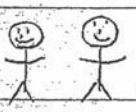
S3B This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	
Carlos	
Dimitri	
Maria	

Each  = 2 states

2

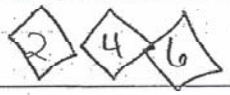
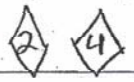
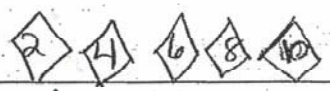
S3C This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	
Carlos	
Dimitri	
Maria	

Each ◇ = 2 states

2

S3D This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	◇ ◇ ◇
Carlos	◇ ◇ ◇
Dimitri	◇ ◇
Maria	◇ ◇ ◇ ◇ ◇

Each ◇ = 2 states

1

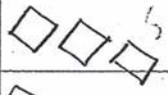
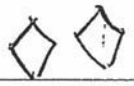
S3E This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	
Carlos	
Dimitri	
Maria	

Each  = 2 states

1

7979001500

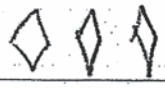
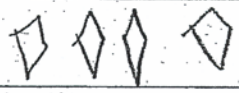
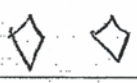
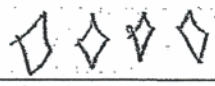
S3F This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	
Carlos	
Dimitri	
Maria	

Each  = 2 states

1

S3G This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	
Carlos	
Dimitri	
Maria	

Each ◇ = 2 states

0

S3H This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Each ◇ = 2 states

0

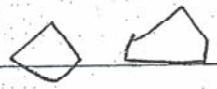
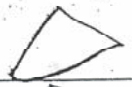
S3I This table shows the number of states 4 fourth-grade students visited over the summer.

States Visited

Student	Number of States Visited
Jenny	6
Carlos	8
Dimitri	4
Maria	10

Complete the **pictograph** to show the same information.

States Visited

Student	Number of States Visited
Jenny	
Carlos	
Dimitri	
Maria	

Each  = 2 states

0

19. Tables, Graphs and Charts - OE

The table shows the number of visitors to an art show last week.

Art Show Visitors

Day	Number of Visitors
Monday	15
Tuesday	50
Wednesday	55
Thursday	80
Friday	65

Label and complete a **bar graph** below to show the same information as in the table. Do **not** shade the bars.

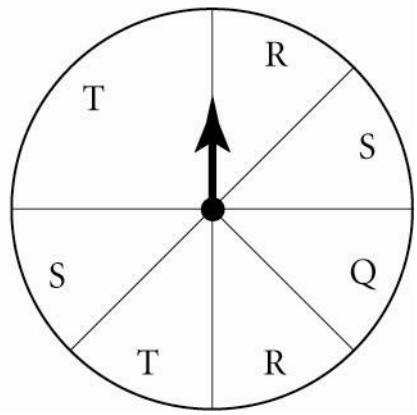
Art Show Visitors

Visitors

Day

21. Probability - MC

Jess is playing a game with a spinner.



If Jess spins the arrow once, on which letter is it **least** likely to land?

- ○ T
- ○ S
- ○ R
- ⊙ Q

22. Patterns - MC

The numbers in the chart follow a pattern.

3	15	27
6	18	30
9	?	33
12	24	36

Which number is missing from the pattern?

- ○ 19
- ○ 20
- ◉ 21
- ○ 22

22. Patterns - OE

The numbers follow a pattern.

164, 153, 142, 131, ___?___

Which number should be next in the pattern? _____

Explain how you decided which number to write.

S4A The numbers follow a pattern.

164, 153, 142, 131, ___?___

Which number should be next in the pattern? 120

Explain how you decided which number to write.

I decided to writ 120 because 164-11=153 and 153-11=142 and 142-11=131 so I came to the conclution that the rule is -11 so I said to myself 131-11=120.

2

S4B The numbers follow a pattern.

164, 153, 142, 131, ___?___

Which number should be next in the pattern? 120

Explain how you decided which number to write.

The pattern is decreaing by 11.

2

S4C The numbers follow a pattern.

164, 153, 142, 131, ?

Which number should be next in the pattern? 120

Explain how you decided which number to write.

I knew the answer was 120 because the pattern brings the tens down 1 number and the ones down 1 number.

2

S4D The numbers follow a pattern.

164, 153, 142, 131, ?

Which number should be next in the pattern? 120

Explain how you decided which number to write.

I knew it was 120 because the pattern was going -9.

1

S4E The numbers follow a pattern.

164, 153, 142, 131, ?

Which number should be next in the pattern? -11

Explain how you decided which number to write.

it's subtracting 11 from each number.

1

S4F The numbers follow a pattern.

164, 153, 142, 131, ?

Which number should be next in the pattern? 20

Explain how you decided which number to write.

You could count down 11 and it will give you the answer.

1

S4G The numbers follow a pattern.

164, 153, 142, 131, ?

Which number should be next in the pattern? 122

Explain how you decided which number to write.

I got 122 because you just keep subtracting nine

0

S4H The numbers follow a pattern.

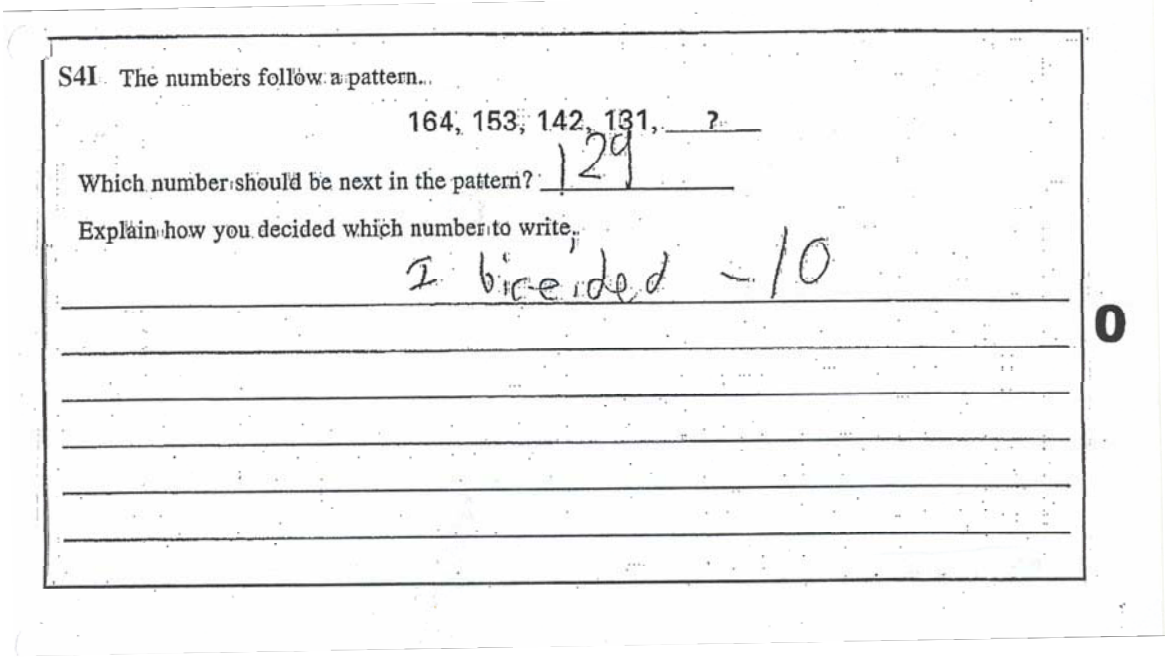
164, 153, 142, 131, ?

Which number should be next in the pattern? 128

Explain how you decided which number to write.

I took away 14 from it

0



S4I The numbers follow a pattern..

164, 153, 142, 131, ? 129

Which number should be next in the pattern? 129

Explain how you decided which number to write.

I bicided -10

0

23. Algebraic Concepts - MC

If □□ / □□ = △△, then □□ / □□ / □□ is equal to how many triangles?

○ △△ / △△

○ △△

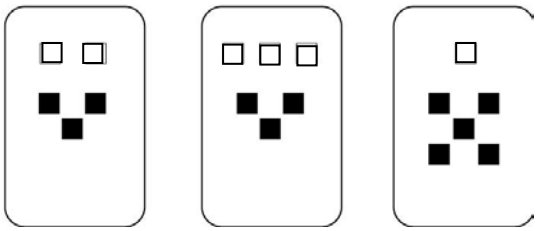
○ △△△ / △△△

⊙ △△△

24. Classification and Logical Reasoning - MC

Jeremy, Bob and Don each picked one of the cards shown below.

- Jeremy's card has more white squares than Don's card.
- Bob's card has more total squares than Jeremy's card.



Which of these statements is true about the number of squares on the boys' cards?

○ Bob's card has 2 white squares.

○ Bob's card has 5 black squares.

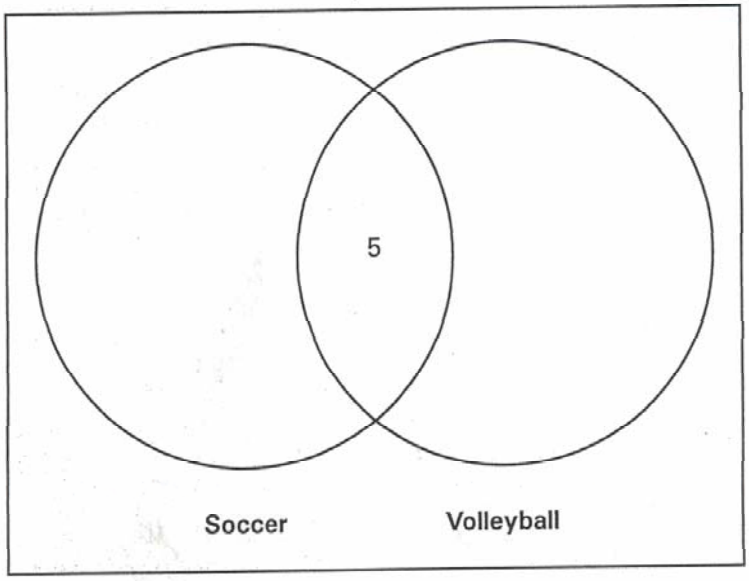
⊙ Jeremy's card has a total of 5 squares.

○ Jeremy's card has a total of 6 squares.

24. Classification and Logical Reasoning - OE

At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.

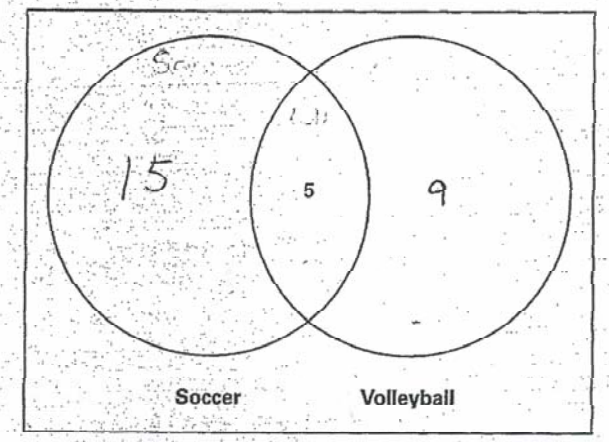


Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. Show your work or explain how you found your answers.

S3A At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.

29
-14
15



14
-5
9

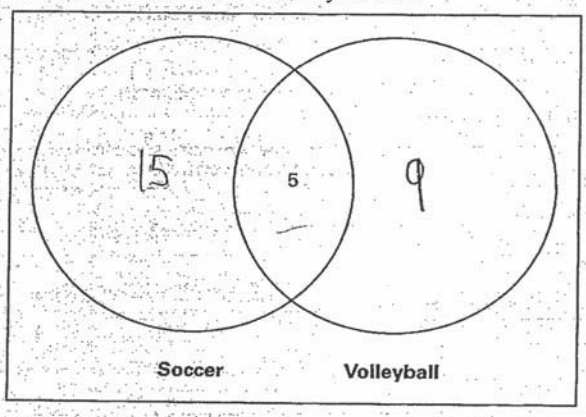
2

Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. *Show your work or explain how you found* your answers.

It said 14 students played volleyball so I took away 5 and got 9. Then it said there were 29 students so I did 29 take-away 14 and got 15.

S3B At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.



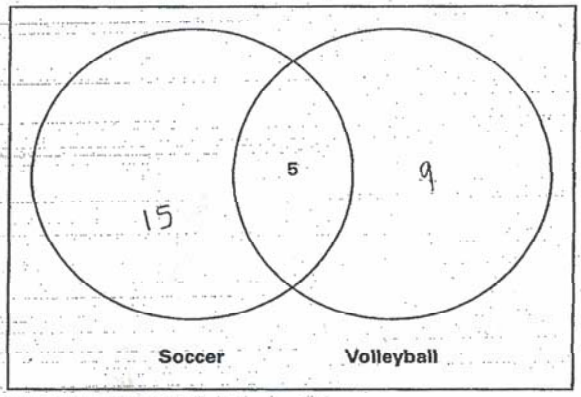
2

Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. Show your work or explain how you found your answers.

I subtracted 5 from 14 and got 9. Then I subtracted 14 from 29 and got 15.

S3C At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.



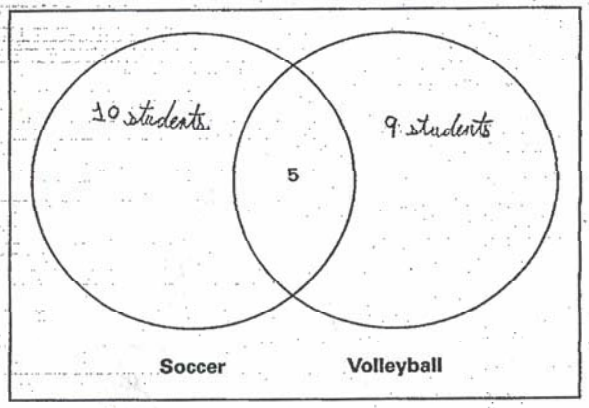
2

Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. Show your work or explain how you found your answers.

first, I subtracted 5 from 14 then I added until I got to 29 and it was 15 so I added them all up and got 29.

S3D At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.



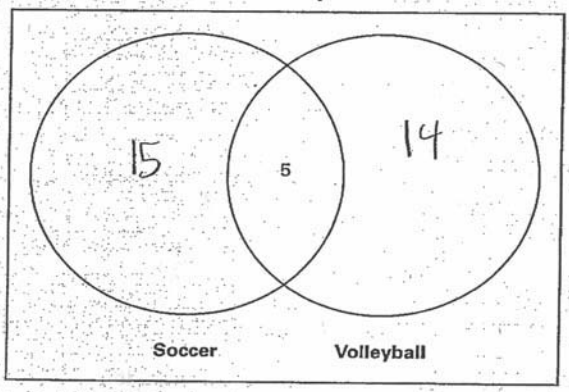
1

Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. Show your work or explain how you found your answers.

I put 9 students one volleyball team and 10 students on soccer team because 5 of the 29 students play on both team. There are total of 14 students on volleyball team. I put 10 students on soccer team because if 29−14 is 15. And if you do 15−5=10 and 14−5=9.

S3E At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.



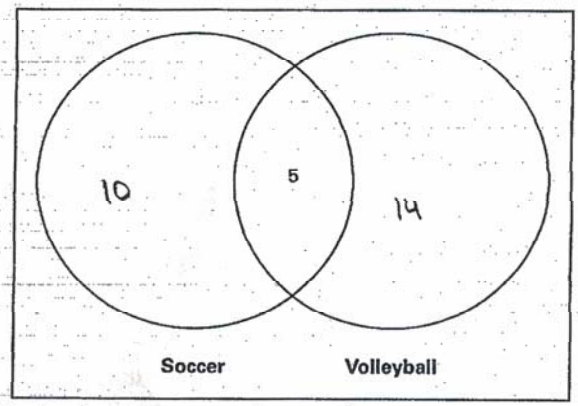
Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. Show your work or explain how you found your answers.

1

because I sumtracted 29 minuse 14 because it sais that 14 student Played volleyball

S3F At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.



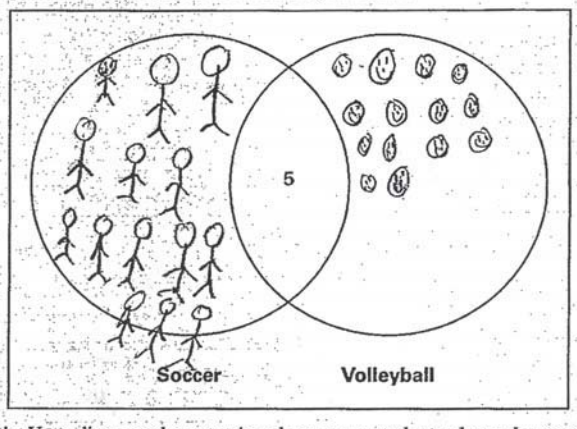
Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. Show your work or explain how you found your answers.

1

I add 5+14=19 then 29-19=10 so this is how I get My answer.

S3G At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.



Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. Show your work or explain how you found your answers.

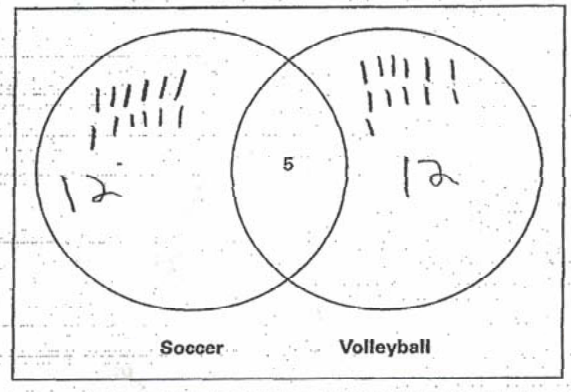
0

volleyball - In the hints it said that there are 14 on the volleyball team.

Soccer - If there are 14 on the volleyball team there has to be 14 on the soccer team.

S3H At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.



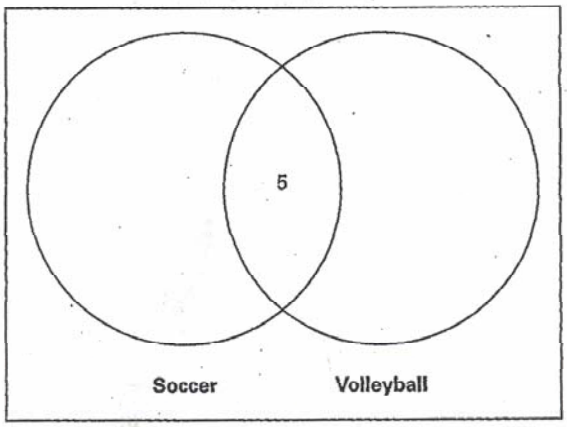
Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. Show your work or explain how you found your answers.

0

there is 24 left split it in to 12 equal

S3I At Ryan's school, a total of 29 students are on the soccer or volleyball teams.

- 5 of the 29 students play on **both** the soccer and volleyball teams as shown in the Venn diagram.
- There are a **total** of 14 students on the volleyball team.



Complete the Venn diagram above to show how many students play **only** soccer and how many students play **only** volleyball. Show your work or explain how you found your answers.

I found my answer because there were 29 students and 5 were on both teams, so I added 5 plus the 29 on the soccer team and it was 34 on the soccer team. There was 19 on the volleyball team because they had 14 on there team so plus the other 5 children there was 19 on the volleyball team.

0

25. Mathematical Applications

E-1 Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla					24
Janie					21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

E1A Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	5	4	6	9	24
Janie	6	5	7	3	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

3

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

In the 1st game they together scored 11 points so I split it in the closest way possible to try to make it even so I used 6 and 5. The 2nd game together they scored fewer than ten so I wanted a big number, I picked 9, split it 4 and 5. 3rd game together more than 12, I picked 13. split it 6 and 7. In the last game they scored at least 3 point, I gave Janie 3 and Marla 9. 3405043600

E1B Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	6	4	4	7	24
Janie	5	5	6	5	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

3

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

I subtracted 6 from 24 and got 18 and then subtracted 4 from 18 and got 14-7=7-7=0 that's how I got the answers for Marla. 21-5=16-5=11-6=5-5=0 for Janie

E1C Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	6	5	10	3	24
Janie	5	4	9	3	21

Marla 6 5 10 3 24
Janie 5 4 9 3 21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

3

It was hard but once I got the 1st 2nd and 4th it got easyer because I only had to dele with the 3rd game the 1st 2nd and 4th games. It was a little tricky at first but it got easyer when I tried to do it because It was the only thing on my mind then.

E1D Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	6	5	8	4	24
Janie	5	4	5	7	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

2

I found my answer by dividing the numbers by two. If there was one left over it would go to Marla because she had more point than Janie. I used guess and check on the last one though.

E1E Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	10	5	4	5	24
Janie	10	3	5	3	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

2

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

because it equals up to the same number.

E1F Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	6	5	8	5	24
Janie	5	4	5	7	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

2

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

E1G Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	6	5	6	7	24
Janie	5	4	7	4	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

1

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

E1H Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	11	3	7	3	24
Janie	11	2	7	2	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

1

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

I guset all of my work then added to see if it was correct.

E1I Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	11	9	13	3	24
Janie	11	5	12	4	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

1

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

I found my answers by adding their points I got 24 points for Marla and 21 points for Janie.

E1J Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	10	10	2	2	24
Janie	5	5	10	1	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

0

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

All of the Answer came to be the same so I guess there all right.

E1K Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	11	0	11	13	24
Janie	11	0	11	10	21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

I did for Marla 11+0=11+13-24. For Janie I did 11+0=11+10=21 That's how I got my two answers

0

E1L Marla and Janie are on the same basketball team. In the first 4 games of the season, Marla scored a total of 24 points and Janie scored a total of 21 points as shown in the table below.

Player	1st Game	2nd Game	3rd Game	4th Game	Total Points
Marla	11	7	13		24
Janie	11	9	13		21

- In the 1st game, Marla and Janie together scored 11 points
- In the 2nd game, together they scored **fewer** than 10 points
- In the 3rd game, together they scored **more** than 12 points
- In the 4th game, they each scored at least 3 points

Complete the table above to show how Marla and Janie **could have scored** their points in the 4 games. Show your work or explain how you found your answers.

0

25. Mathematical Applications

Five students are raising money by participating in a walk-a-thon. The number of dollars they will earn for each mile they walk is shown in the table below.

Walk-a-thon

Student	Dollars Earned For Each Mile Walked	Miles Walked	Total Dollars Earned
Mike	$2		
Kristen	$4		
Troy	$7		
Emily	$3		
Andrea	$5		
		Total:	

Complete the table above.

- Each student must walk at least 1 mile.
- The total number of dollars earned must be exactly $90.
- Include the number of miles walked and the total dollars earned.

Connecticut Mastery Test – Fourth Generation

Mathematics Grade 4 Vocabulary List

About
Add
All together
A.M.
Angle(s)
Answer
Area
Array
Arrange
Arrow
At least
Average
Axis
Bar graph
Between
Capacity
Cardinal numbers
Centimeter
Change (as in money)
Chart
Circle
Circle graph
Classify
Clock (analog and digital)
Closest to
Combine
Combina-tion
Compare
Conclusion
Cup
Data
Day
Days of the Week
Denominator
Describe
Different
Difference
Digit
Divide
Elapsed time
Equal
Equation
Equilateral triangle
Equivalen
Estimate
Exactly
Explain
Event
Factor
Fair
Farthest
Fewer, fewest
Fewer than
Figure (as in geometric figure)
Foot
Fraction
Fractional part
Gallon
Grams
Graph
Greatest
Grid (dot paper)
Group, grouped
Growing patterns
Half
Half-Inch
Height
Hexagon
Highest
Hour
How many more
How many less
Hundred (s)
Inch
In common
Interval
Kilogram
Kilometer
Larger/larger than
Least
Least likely
Length
Less
Less than
Likely
Line graph
Line plot
Line segment
Long, longer, longest
Lowest
Mass
Measure
Meter
Mile
Milliliter
Minute
Missing
Month
More than
Most
Most likely
Multiply
Nearest
No less than
No more than
Number fact
Number line
Number sentence
Numerator
Ones
Open sentence
Operation
Order (numbers)
Ordinal numbers (first, second…)
Ounce
Parallelogram
Pattern
Pentagon
Pictograph
Pint
P.M.
Point (on a number line)
Polygon
Possible
Pound
Predict
Probability
Product
Quadrilateral
Quart
Quarter
Reasonable
Rectangle
Rectangular
Rename
Repeating patterns
Replaced
Represents
Ring (draw a ring around)
Rounding
Same/same as
Scale (graphs)
Segment
Set
Shaded
Shape
Short, shorter, shortest
Side (s)
Size
Small/smaller than
Solve/solution
Sort
Spinner
Square
Square unit
Story problem
Subtract
Sum
Table
Tall, taller, tallest
Tens
Tenths
Ton
Trapezoid
Trend
Triangle
Unit (using dot paper, base ten blocks, and measurement)
Unshaded
Value
Venn Diagram
Volume
Week
Weight
Width
Yard
Year

This list, while not exhaustive, includes vocabulary with which all teachers and students should be familiar. **Bold** words may be new vocabulary that should be used at this grade level.