Part III: Grade 5

- 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 5 Test Blueprint

Content Standards and Strands	# of multiple-choice items	# of open-ended items	# of grid-in 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	**7**	**1**	
5. Models for Operations	**4**	**2**	
6. Basic Facts			**6**
7. Computation with Whole Numbers and Decimals	**2**		**4**
8. Computation with Fractions and Integers	**6**		
9. Solve Word Problems	**4**		**2**
10. Numerical Estimation Strategies	**6**		
11. Estimating Solutions to Problems	**4**		
12. Ratios and Proportions	**NT**	**NT**	**NT**
13. Computation with Percents	**NT**	**NT**	**NT**
Geometry and Measurement			
14. Time	**4**		
15. Approximating Measures	**6**		
16. Customary and Metric Measures	**3**	**2**	**1**
17. Geometric Shapes and Properties	**2**	**2**	
18. Spatial Relationships	**2**	**1**	
Working with Data: Probability and Statistics			
19. Tables, Graphs and Charts	**2**	**2**	
20. Statistics and Data Analysis	**2**	**1**	
21. Probability	**4**	**1**	
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**	**20**	**13**

* NT = Strand not tested at this grade level.

Connecticut Mastery Test – Fourth Generation
Mathematics Grade 5 Content

Strand	Grade 5 Concepts/Skills Assessed
1. Place Value	A. Solve problems involving 100 MORE/LESS or 1,000 MORE/LESS than a given number. B. Identify alternative forms of expressing whole numbers ‹10,000 using expanded notation. C. Identify alternative forms of expressing whole numbers ‹10,000 using regrouping. D. Use place value concepts to identify and compare the magnitude and value of digits in numbers.
2. Pictorial Representation of Numbers	A. Relate decimals (0.01-2.99) to pictorial representations and vice versa. B. Relate fractions and mixed numbers to pictures and vice versa. C. Identify and/or shade fractional parts of regions, sets or mixed numbers in pictures.
3. Equivalent Fractions, Decimals and Percents	A. Rename equivalent fractions. B. Rename equivalent mixed numbers as improper fractions and vice versa.
4. Order, Magnitude and Rounding of Numbers	A. Order whole numbers ‹100,000. B. Order mixed numbers, fractions and decimals. C. Describe magnitude of whole numbers ‹100,000 and decimals. D. Describe magnitude of mixed numbers and fractions. E. Round whole numbers in context. F. Round decimals. G. Locate points (fractions, decimals and whole numbers) on number lines and scales.
5. Models for Operations	A. Identify the appropriate operation or number sentence to solve a story problem. B. Write story problems from multiplication or division number sentences, using 1- and 2-digit numbers.
6. Basic Facts	A. Multiply and divide facts.
7. Computation with Whole Numbers and Decimals	A. Add and subtract 2-, 3- and 4-digit whole numbers and money amounts less than $100. B. Multiply and divide multiples of 10 and 100 by 10 and 100. C. Multiply and divide 2- and 3-digit whole numbers and money amounts less than $10 by 1-digit numbers.
8. Computation with Fractions and Integers	A. Add and subtract fractions and mixed numbers with like denominators.
9. Solve Word Problems	A. Solve one-step story problems involving whole numbers and money amounts with or without extraneous information. Use all operations. B. Solve two-step story problems involving whole numbers and money amounts with or without extraneous information.
10. Numerical Estimation Strategies	A. Identify the best expression to find an estimate. B. Identify whether and why a particular strategy will result in an overestimate or an underestimate.

Strand	Grade 5 Concepts/Skills Assessed
11. Estimating Solutions to Problems	A. Identify a reasonable estimate to a problem, including estimating change.
12. Ratios and Proportions	Not tested
13. Computation with Percents	Not tested
14. Time	A. Solve problems involving elapsed time (a.m. and p.m.). B. Solve problems involving conversions of measures of time (minutes, hours and days).
15. Approximating Measures	A. Estimate lengths and areas.
16. Customary and Metric Measures	A. Measure lengths to the nearest quarter-inch or half-centimeter. B. Measure and determine perimeters and areas. C. Identify appropriate customary or metric units of measure (length, capacity and mass) for a given situation. D. Solve problems involving conversions of measures of length.
17. Geometric Shapes and Properties	A. Identify, describe and/or classify 2-dimensional geometric shapes and figures. B. Draw, describe and/or classify 2-dimensional geometric shapes and figures.
18. Spatial Relationships	A. Identify lines of symmetry. B. Draw lines of symmetry. C. Identify congruent figures. D. Locate points on grids.
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	A. Draw reasonable conclusions from data in tables, bar graphs, pictographs, circle graphs and charts. B. State a conclusion and explain why a claim is or is not reasonable, based on the data.
21. Probability	A. Identify correct solutions to problems involving elementary notions of probability and fairness. B. Solve problems involving elementary notions of probability and fairness, including justifying solutions.
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, multiplication 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, statistical and spatial problems.

GRADE 5 SAMPLE ITEMS

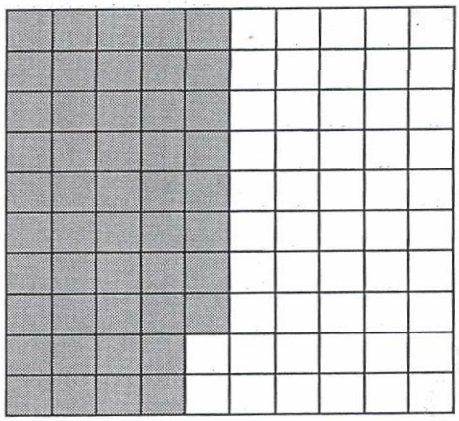
1. Place Value - MC

A dump truck had 3729 pounds of gravel. It dumped 1000 pounds off at a construction site. How many pounds of gravel did the truck have left?

- ○ 4729
- ○ 3829
- ○ 3629
- ◉ 2729

2. Pictorial Representations of Numbers - MC

2 The shaded part of this picture shows what decimal number?



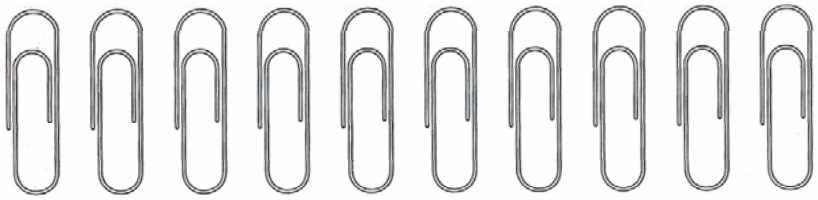
each □ = 0.01

- ○ 0.58
- ○ 0.57
- ◉ 0.48
- ○ 0.42

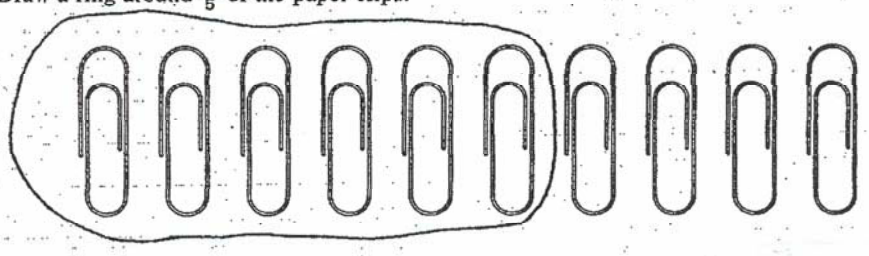
2. Pictorial Representations of Numbers - OE

009831

S-1 Draw a ring around $\frac{3}{5}$ of the paper clips.

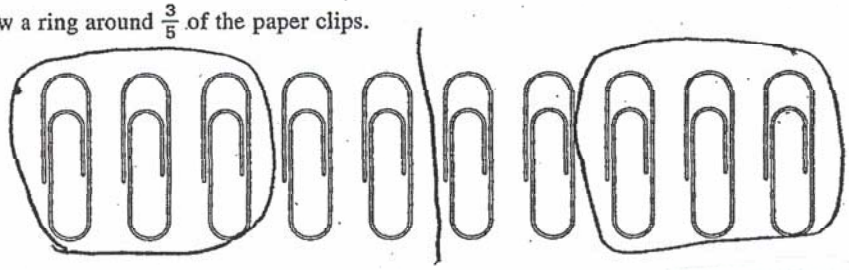


S1A Draw a ring around $\frac{3}{5}$ of the paper clips.



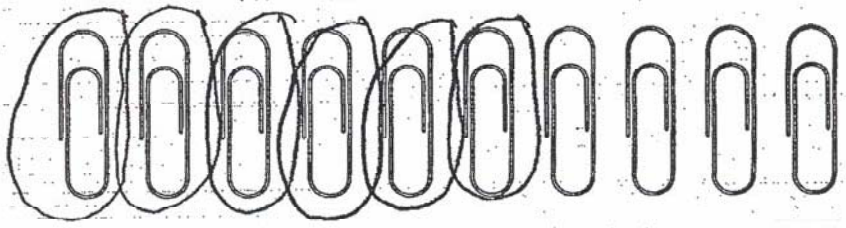
1

S1B Draw a ring around $\frac{3}{5}$ of the paper clips.



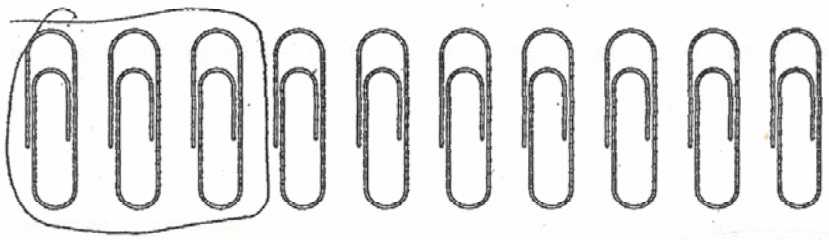
1

S1C Draw a ring around $\frac{3}{5}$ of the paper clips.



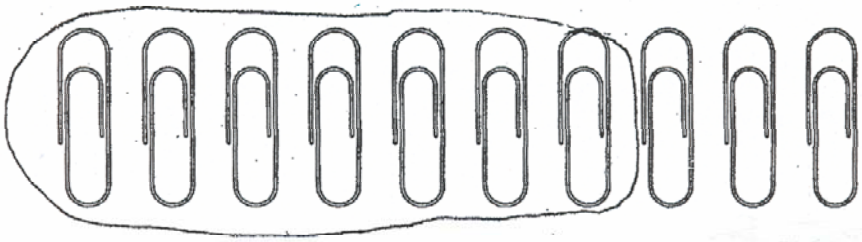
1

S1D Draw a ring around $\frac{3}{5}$ of the paper clips.



0

S1E Draw a ring around $\frac{3}{5}$ of the paper clips.



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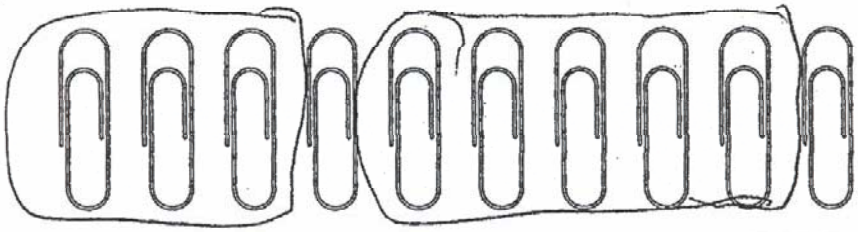
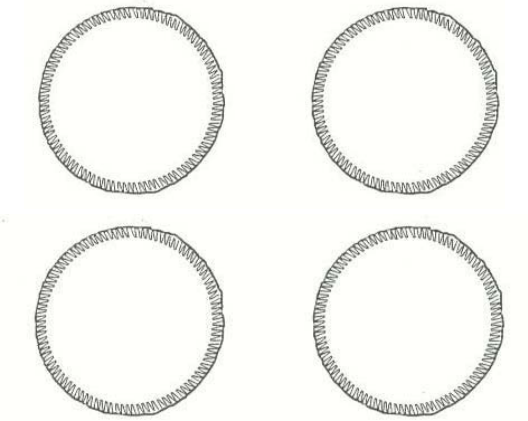
S1F Draw a ring around $\frac{3}{5}$ of the paper clips.



0

2. Pictorial Representations of Numbers - OE

Shade in $3\frac{2}{3}$ of the pies.



3. Equivalent Fractions, Decimals and Percents - MC

Which mixed number is equivalent to $\frac{17}{6}$?

- ○ $11\frac{1}{6}$
- ◉ $2\frac{5}{6}$
- ○ $1\frac{5}{6}$
- ○ $1\frac{7}{6}$

4. Order, Magnitude and Rounding of Numbers - MC

Julio made this table to show the number of visitors at 4 different beaches during one year.

Beach Visitors	
Beach	**Number of Visitors**
Alligator Point	12, 982
Port Bella	12,173
St. Joe's Island	13,104
Tucker's Sound	12,203

Which beach has **less** than 12,200 visitors?

- ○ Alligator Point
- ◉ Port Bella
- ○ St. Joe's Island
- ○ Tucker's Sound

5. Models for Operations - MC

At the start of the marathon, 670 runners were registered. Only 589 runners crossed the finish line. Which number sentence could be used to find out how many runners did **not** cross the finish line?

- ○ $670 \times 589 = \square$
- ◉ $670 - 589 = \square$
- ○ $670 \div 589 = \square$
- ○ $670 + 589 = \square$

5. Models for Operations - OE

040697

S-3 Write a story problem that can be solved using the number sentence $12 \times 3 = \square$.

S3A Write a story problem that can be solved using the number sentence $12 \times 3 = \square$.

There were 3 cats. Each cat had 12 kittens. How many kittens in all?

Answer: 36 kittens

2

S3B Write a story problem that can be solved using the number sentence $12 \times 3 = \square$.

12 kids went to the store and each bought three things. 35

2

S3C Write a story problem that can be solved using the number sentence $12 \times 3 = \square$.

In a zoo there were 12 Kangaroos. On Sunday 12 Kangaroos were born. On Monday 12 Kangaroos were added. How many Kangaroo total?

2

S3D Write a story problem that can be solved using the number sentence $12 \times 3 = \square$.

I have 12 groups of marbles. In each group of 8 marbles I have 3 in each group. How many marbles are in each group of marbles?

1

S3E Write a story problem that can be solved using the number sentence $12 \times 3 = \square$.

I had a stack of blocks and it had 12 blocks in it. I put 3 times as many blocks on it how many blocks are on the stack?

1

S3F Write a story problem that can be solved using the number sentence $12 \times 3 = \square$.

I had 12 porcinine dolls. I put them in 3 groups. How many are in each group altogether.

1

S3G Write a story problem that can be solved using the number sentence $12 \times 3 = \square$.

Barb was walking down the street when she saw 12 stones She picked up all 12 of them Then Barb walked down the street even more and she saw 3 cookies how many items does Barb have?

0

S3H Write a story problem that can be solved using the number sentence $12 \times 3 = \square$.

I went to the pet store and there were 12 dogs and 3 cats, 3 birds and 3 pigs.

0

S3I Write a story problem that can be solved using the number sentence 12 × 3 = □.

I have 12 books. My friend Paula gave me 3 books more. How many books does Zelyne have now all togther. Zelyne has 36 books now. 12X3=36

0

6. Basic Facts - GR

56 ÷ 8 =

7. Computation with Whole Numbers and Decimals - MC

360 × 10 =

- ○ 36,000
- ◉ 3600
- ○ 360
- ○ 36

8. Computation with Fractions and Integers - MC

$$\begin{array}{r} 2\frac{1}{6} \\ +\,3\frac{4}{6} \\ \hline \end{array}$$

- ○ $6\frac{5}{6}$
- ⊙ $5\frac{5}{6}$
- ○ $5\frac{5}{12}$
- ○ $1\frac{1}{2}$

9. Solve Word Problems - MC

A construction crew used 122 boxes of nails to build 4 houses. If the crew used the same number of boxes of nails on each house, how many boxes were used to build one house?

- ○ 488
- ○ 118
- ⊙ 30.5
- ○ 26.5

10. Numerical Estimation Strategies - MC

Ms. Harper's 5th grade class read 2,803 pages one month and 3,745 pages the next month. She estimated the total pages for both months by adding 3,000 and 4,000. Would her **estimate** be more or less than the actual answer?

- ○ **less**, because she rounded both numbers up
- ⊙ **more**, because she rounded both numbers up
- ○ **less**, because she rounded both numbers down
- ○ **more**, because she rounded both numbers down

11. Estimating Solutions to Problems - MC

Keegan's mother bought groceries for a cookout. She spent $103 and gave the clerk $150. Which is a reasonable **estimate** of the change she received?

- ○ a little more than $40
- ○ a little less than $40
- ○ a little more than $50
- ⊙ a little less than $50

14. Time - MC

A movie started at 7:30 P.M. and lasted for 1 hour and 45 minutes. At what time did the movie end?

- ○ 8:15 P.M.
- ○ 8:45 P.M.
- ○ 9:00 P.M.
- ⊙ 9:15 P.M.

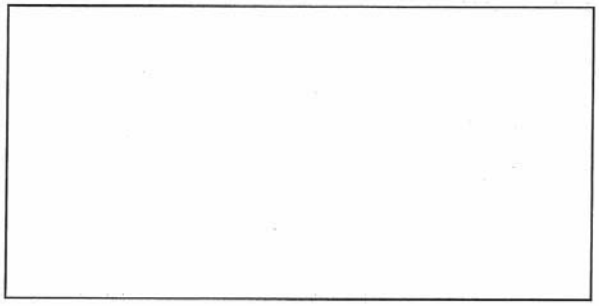
15. Approximating Measures - MC

If the area of small rectangle is 4 square centimeters, **about** how many square centimeters is the large rectangle?

- ○ 4 centimeters
- ○ 8 centimeters
- ⊙ 12 centimeters
- ○ 16 centimeters

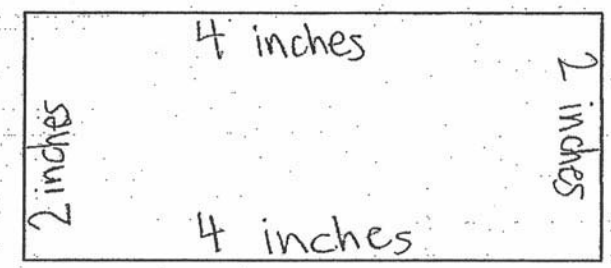
16. Customary and Metric Measures - OE

S-2 Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: _____

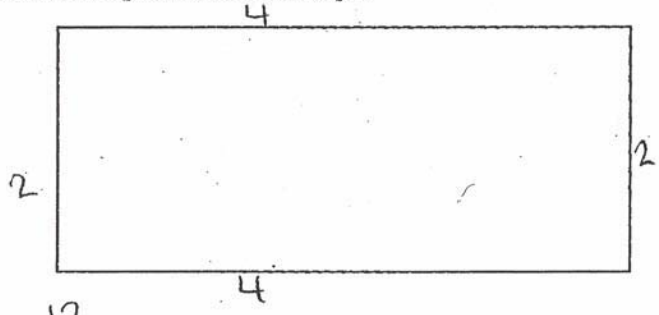
S2A Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: 12 inches

2

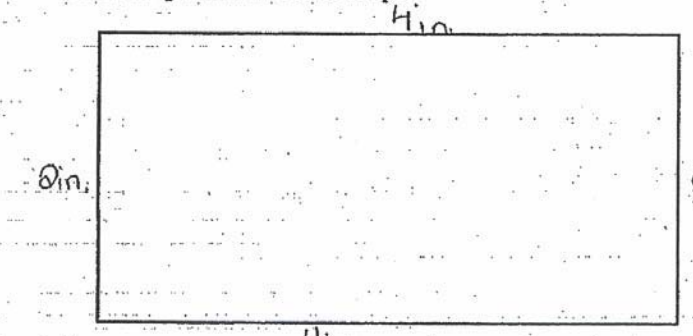
S2B Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: 12

2

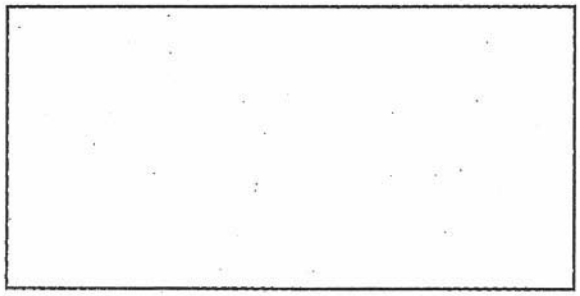
S2C Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: 12 in.

2

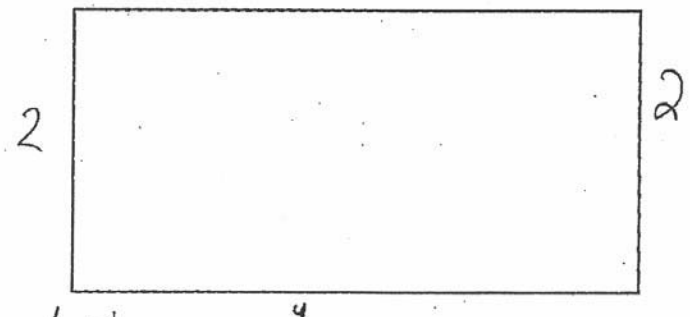
S2D Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: 12

1

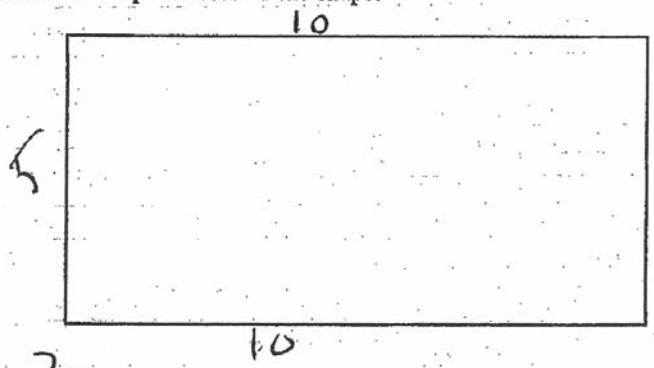
S2E Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: 64

1

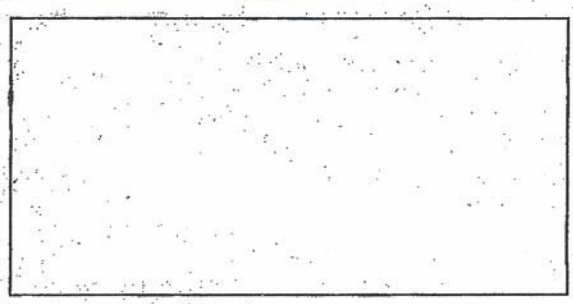
S2F Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: 30

1

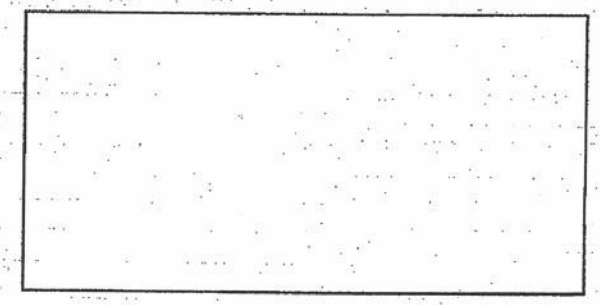
S2G Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: 12 8

0

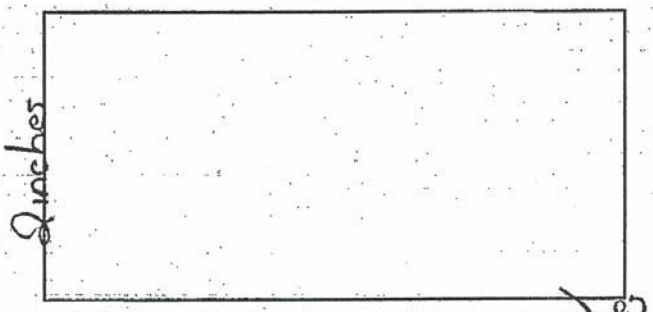
S2H Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: 4 in.

0

S2I Use your ruler to measure the length of each side of this shape in inches. Label the length of each side and find the **perimeter** of the shape.



Perimeter: 24

0

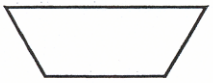
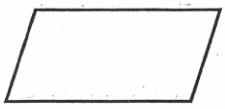
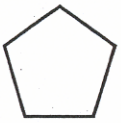
16. Customary and Metric Measures - MC

Which unit is **best** to use for measuring the length of a student's desk?

- ○ grams
- ◉ centimeters
- ○ miles
- ○ kilometer

17. Geometric Shapes and Properties - MC

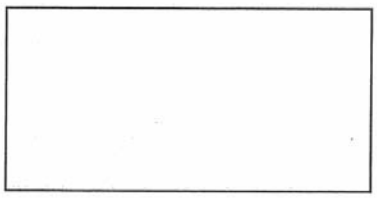
Which shape is a parallelogram?

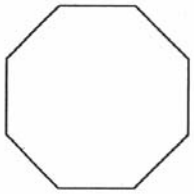
- ○ 
- ◉ 
- ○ 
- ○ 

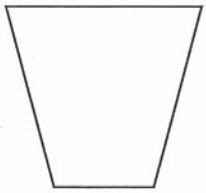
17. Geometric Shapes and Properties - OE

040711

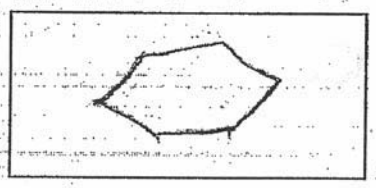
S-4 Draw a hexagon inside the rectangle.

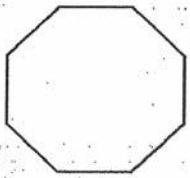


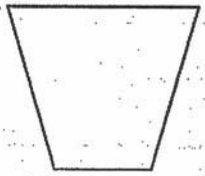




S4A Draw a hexagon inside the rectangle.

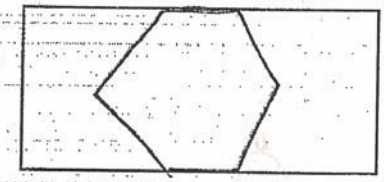


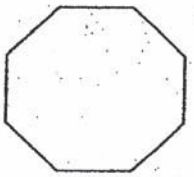


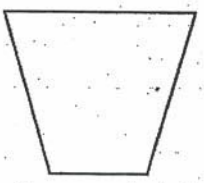


2

S4B Draw a hexagon inside the rectangle.

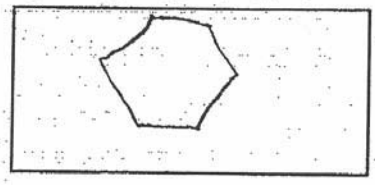


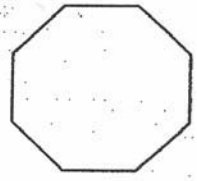


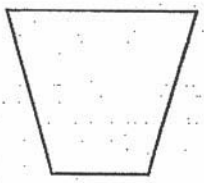


2

S4C Draw a hexagon inside the rectangle.

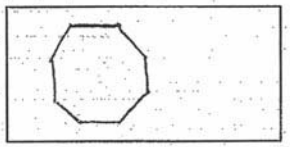






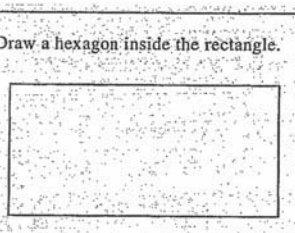
2

S4D Draw a hexagon inside the rectangle.



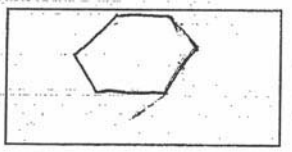
1

S4E Draw a hexagon inside the rectangle.



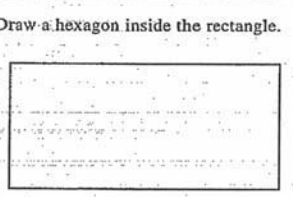
1

S4F Draw a hexagon inside the rectangle.



1

S4G Draw a hexagon inside the rectangle.

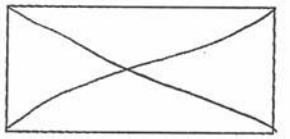


0

S4H Draw a hexagon inside the rectangle.

0

S4I Draw a hexagon inside the rectangle.

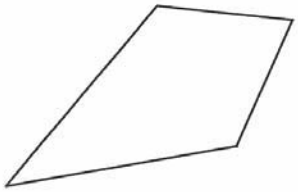


0

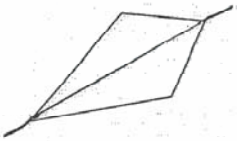
18. Spatial Relationships - OE

005034

S-2 Draw a line of symmetry on the figure below.



S2A Draw a line of symmetry on the figure below.

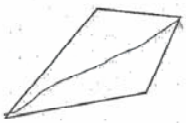


1

S2B Draw a line of symmetry on the figure below.

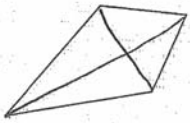
1

S2C Draw a line of symmetry on the figure below.



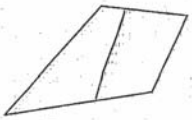
1

S2D Draw a line of symmetry on the figure below.



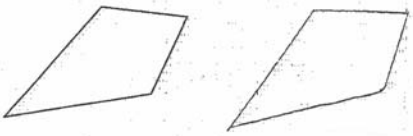
0

S2E Draw a line of symmetry on the figure below.



0

S2F Draw a line of symmetry on the figure below.



0

18. Spatial Relationships - MC

Which of these appears to be congruent to the figure above?

○ 

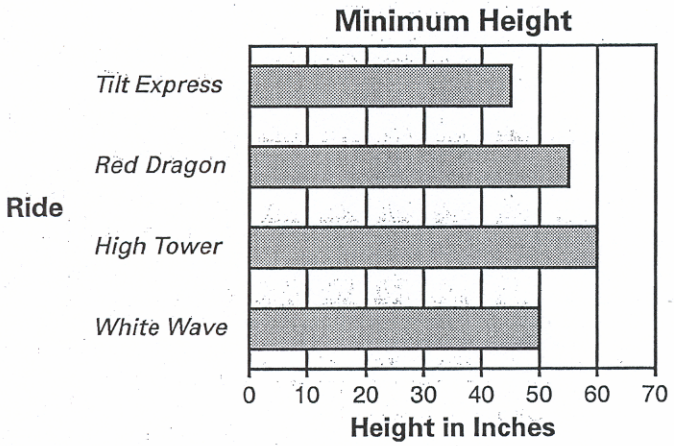
○ 

○ 

◉ 

19. Tables, Graphs and Charts - MC

The amusement park set minimum heights for riders.



How many inches tall must a rider be to ride the *Red Dragon* ride?

- ○ **40 inches**
- ○ **50 inches**
- ◉ **55 inches**
- ○ **60 inches**

19. Tables, Graphs and Charts - OE

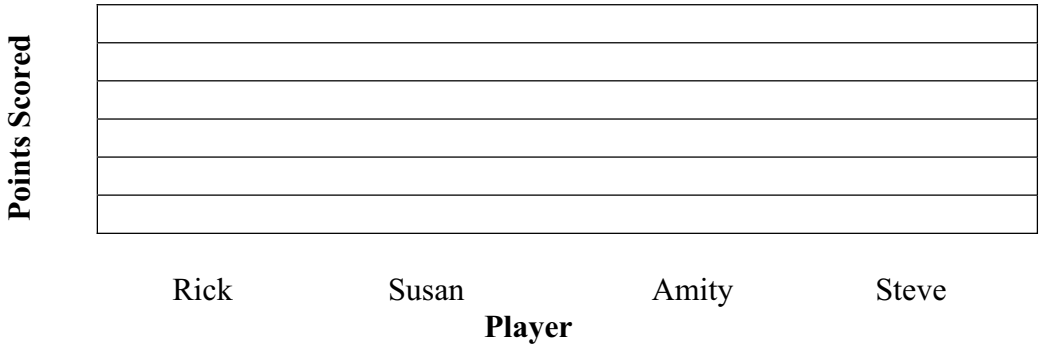
The table below shows how many points four players on the basketball team scored.

Points Scored by Players

Player	Points Scored
Rick	5
Susan	15
Amity	10
Steve	25

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

Points Scored by Players



19. Tables, Graphs and Charts - OE

S-3 This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

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

Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	
Country	
Jazz	
Rock	

Each ☐ = 10 CDs

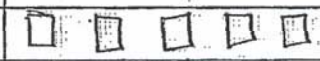
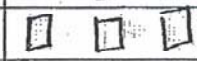
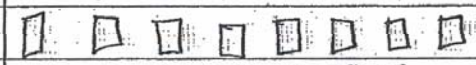
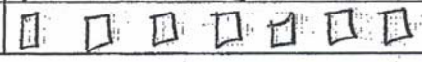
S3A This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

Complete a **pictograph** to show the same information. **2**

Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	
Country	
Jazz	
Rock	

Each □ = 10 CDs

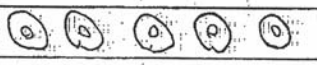
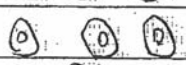
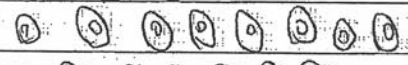
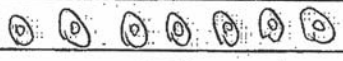
S3B This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

Complete a **pictograph** to show the same information. **2**

Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	
Country	
Jazz	
Rock	

Each ◎ = 10 CDs

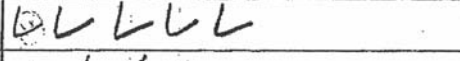
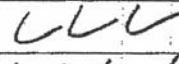
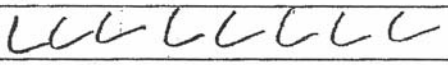
S3C This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

Complete a **pictograph** to show the same information. **2**

Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	
Country	
Jazz	
Rock	

Each  = 10 CDs

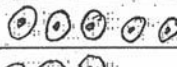
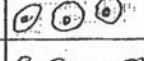
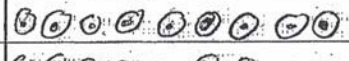
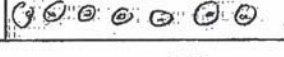
S3D This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

Complete a **pictograph** to show the same information. **1**

Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	
Country	
Jazz	
Rock	

Each  = 10 CDs

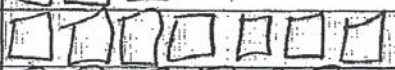
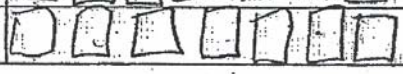
S3E This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

Complete a **pictograph** to show the same information. **1**

Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	
Country	
Jazz	
Rock	

Each ☐ = 10 CDs

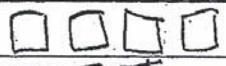
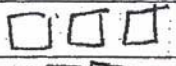
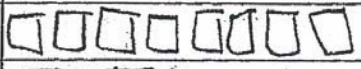
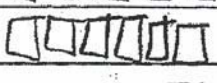
S3F This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

Complete a **pictograph** to show the same information. **1**

Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	
Country	
Jazz	
Rock	

Each ☐ = 10 CDs

S3G This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

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

Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	
Country	
Jazz	
Rock	

Each = 10 CDs

S3H This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

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

Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	50
Country	30
Jazz	80
Rock	70

Each = 10 CDs

S3I This table shows weekly CD sales at the Music Shop.

Music Shop CD Sales

Type of Music	Number of CDs Sold Per Week
Classical	50
Country	30
Jazz	80
Rock	70

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

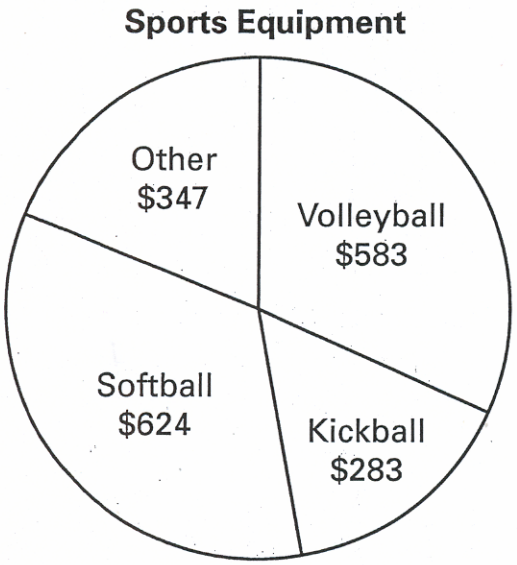
Weekly Music Shop CD Sales

Type of Music	Number of CDs Sold
Classical	500
Country	300
Jazz	800
Rock	700

Each □ = 10 CDs

20. Statistics and Data Analysis - MC

The circle graph below shows the amount of money spent on sports equipment at an elementary school.

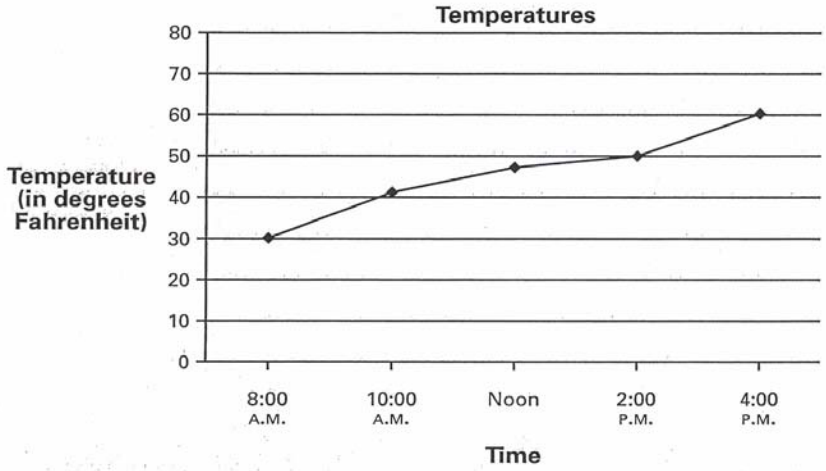


How much more money was spent on volleyball than on kickball equipment?

- ○ **$500**
- ○ **$400**
- ◉ **$300**
- ○ **$200**

20. Statistics and Data Analysis - OE

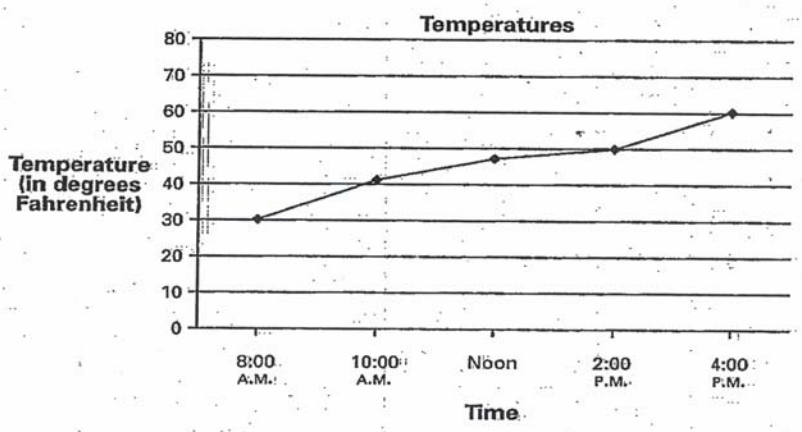
S-5 This graph shows the temperature during an 8-hour period.



Vicky claims that the temperature doubled over the 8 hours.

Based on the data in the graph above, is Vicky's statement reasonable? Use the data in the graph to explain why or why not.

S5A This graph shows the temperature during an 8-hour period.



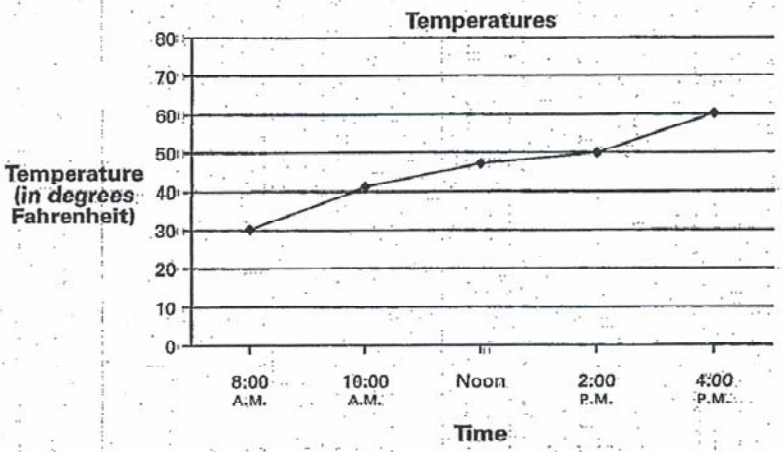
2

Vicky claims that the temperature doubled over the 8 hours.

Based on the data in the graph above, is Vicky's statement reasonable? Use the data in the graph to explain why or why not.

yes, beause 30 plus 30 equals 60.

S5B This graph shows the temperature during an 8-hour period.



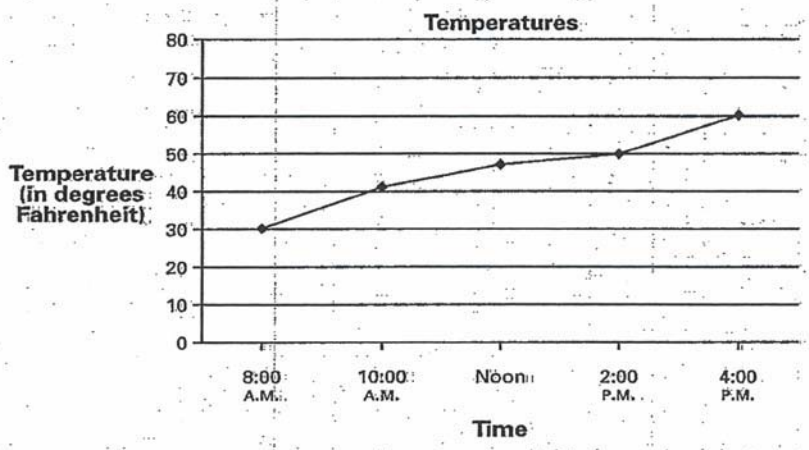
2

Vicky claims that the temperature doubled over the 8 hours.

Based on the data in the graph above, is Vicky's statement reasonable? Use the data in the graph to explain why or why not.

Yes because 30°F x 2 = 60°F and at the end of the 8 hours the temperature changed from 30°F to 60°F.

S5C This graph shows the temperature during an 8-hour period.



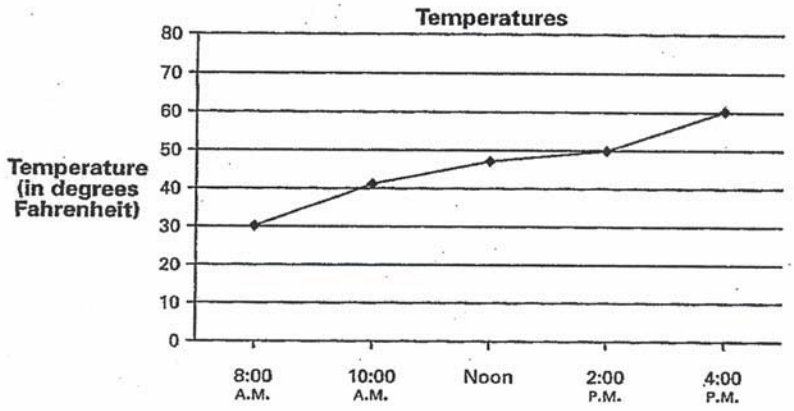
2

Vicky claims that the temperature doubled over the 8 hours.

Based on the data in the graph above, is Vicky's statement reasonable? Use the data in the graph to explain why or why not.

Yes, Vicky's statement is reasonable because at the begining hour(8:00) the temperature was 30 degrees. Then at the ending hour(4:00) the temperature was 60 degrees. And 60 is as twice as much of 30. So Vicky's statement was reasonable.

S5D This graph shows the temperature during an 8-hour period.



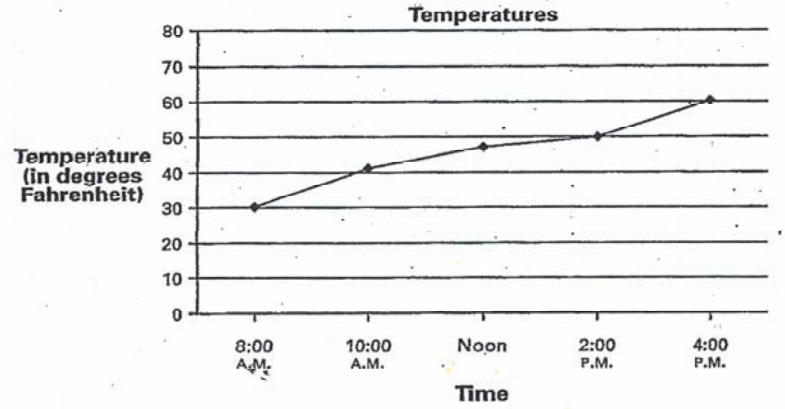
1

Vicky claims that the temperature doubled over the 8 hours.

Based on the data in the graph above, is Vicky's statement reasonable? Use the data in the graph to explain why or why not.

yes because when it started it was 30 then at the end it was 60

S5E This graph shows the temperature during an 8-hour period.



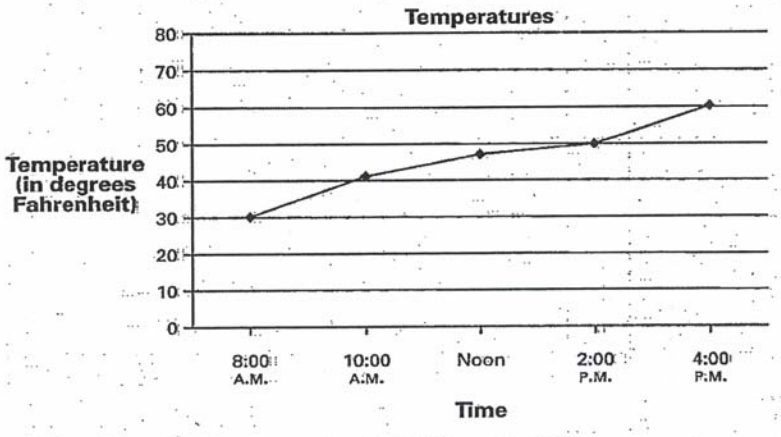
1

Vicky claims that the temperature doubled over the 8 hours.

Based on the data in the graph above, is Vicky's statement reasonable? Use the data in the graph to explain why or why not.

Yes it is reasonable because at 8:00 am it was at 30 and 8 hours later that is 4:00 pm it is now on 60.

S5F This graph shows the temperature during an 8-hour period.



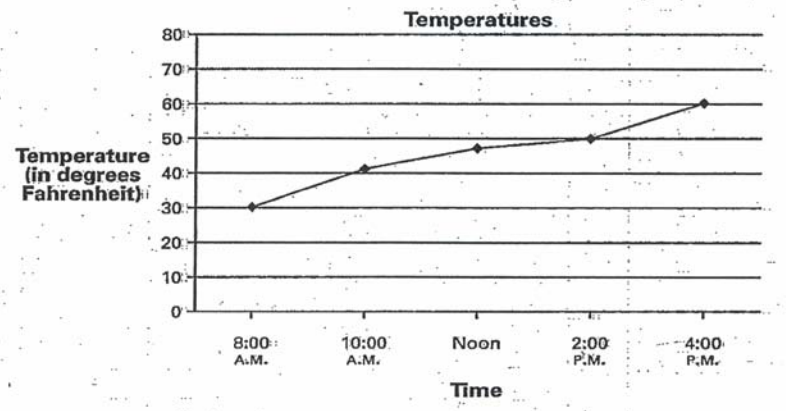
Vicky claims that the temperature doubled over the 8 hours.

Based on the data in the graph above, is Vicky's statement reasonable? Use the data in the graph to explain why or why not.

Yes it went from 30° to 60°

1

S5G This graph shows the temperature during an 8-hour period.



Vicky claims that the temperature doubled over the 8 hours.

Based on the data in the graph above, is Vicky's statement reasonable? Use the data in the graph to explain why or why not.

yes it rose to 50°f But before it was only 30°f

0

21. Probability - MC

Megan has a package of fruit snacks. Her package contains 3 red, 2 blue, 1 orange, and 1 green. If she picks one **without looking**, what is the probability that the fruit snack she picks will be blue?

- ○ 1 out of 7
- ◉ 2 out of 7
- ○ 3 out of 7
- ○ 5 out of 7

21. Probability - OE

06_21_9065 CMT 003742

S-4 Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

Show your work or explain how you found your answer in the space provided below.

Probability: _____

Explanation: _____

S4A Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

Show your work or explain how you found your answer in the space provided below.

2

Probability: 4 out of 20 or $\frac{1}{5}$

Explanation: I added all of the cookies which equaled 20. Then I saw that there were 4 chocolate chip cookies. That was how I got 4 out of 20. But I wanted to bring it to the LCM, what I did was devided each number by 4. $4 \div 4 = 1$, $20 \div 4 = 5$. That is how I got $\frac{1}{5}$.

S4B Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

Show your work or explain how you found your answer in the space provided below.

2

Probability: 4 out of 20

Explanation: I added all the numbers together and came out with 20 then to the Chocolate Chip which is four thats how you get 4 out of 20.

S4C Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

2

Show your work or explain how you found your answer in the space provided below.

Probability: 1 out of 5

Explanation: I just added all the numbers and devided by 4.

S4D Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

1

Show your work or explain how you found your answer in the space provided below.

Probability: It is a $\frac{4}{20}$ of chance to get one

Explanation: Because four is the second to the lowest number. So I guess I would most likely to get a gingersnap.

S4E Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

Show your work or explain how you found your answer in the space provided below.

Probability: Not very likely 4 of 20 chance.

Explanation: He will probably not get a chocolate chip cookie. He has a much better chance of getting a gingersnap cookie.

1

S4F Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

Show your work or explain how you found your answer in the space provided below.

Probability: A 4th of a chance.

Explanation: If you add up 4+6+8+2=20 and you only have 4 chocolate chip cookies you have a 4th of a chance.

1

S4G Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

Show your work or explain how you found your answer in the space provided below.

Probability: 4 out of 16

Explanation: Because there is more of Sugar and Gingersnap so he would probally pick one of those

0

S4H Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

Show your work or explain how you found your answer in the space provided below.

Probability: He has a 25% chance of getting a Chocolate Chip cookie.

Explanation: Well, there's only 4 of them, so he'll have a better chance of getting a gingersnap or sugar cookie.

0

S4I Erwin has a bag of cookies. The table below shows the number of each kind of cookie he has.

Cookies

Type	Number
Chocolate Chip	4
Sugar	6
Gingersnap	8
Oatmeal	2

If Erwin picks a cookie out of the bag **without looking**, what is the probability that he will pick a Chocolate Chip cookie?

Show your work or explain how you found your answer in the space provided below.

Probability: Gingersnap

Explanation: Gingersnap because there are 8 of them and Sugar is 6, Chocolate Chip 4, and Oatmeal 2 so Gingersnap is the most.

0

22. Patterns - MC

These numbers follow a pattern.

43, 36, 29, 22, ?

Which number is next in the pattern?

- ◉ 15
- ○ 16
- ○ 19
- ○ 21

22. Patterns - OE

06_22_9083 CMT 003749

S-3 These numbers follow a pattern.

1, 5, 25, 125, ?

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: _____

Explanation:

S3A These numbers follow a pattern.

1, 5, 25, 125, ___?___

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: 625

Explanation:

You're multiplying each by 5 to get the next number

2

S3B These numbers follow a pattern.

1, 5, 25, 125, ___?___

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: 625

Explanation:

1 x 5 = 5; 5 x 5 = 25; 25 x 5 = 125; 125 x 5 = 625.

2

S3C These numbers follow a pattern.

1, 5, 25, 125, ___?___

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: 625

Explanation:

Each number is multiplied by five to equal the next number; so I multiplied 1 X 5 then the sum of that X 5 and so on until I met 125 and X by 5 to get the answer.

2

S3D These numbers follow a pattern.

1, 5, 25, 125, ___?___

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: 620

Explanation:

Every time you go up, you multiply that number by 5. **1**

S3E These numbers follow a pattern.

1, 5, 25, 125, ___?___

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: 3,125

Explanation:

I figured out that you have to multiply the next number by five so once I found out I multiplyed 125 x 5 and got 3,125. **1**

S3F These numbers follow a pattern.

1, 5, 25, 125, ___?___

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: 129

Explanation:

I think it is that number because it's going in order like 4, 20, 100, 4, 20, 100. **1**

S3G These numbers follow a pattern.

1, 5, 25, 125, ___?___

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: 225

Explanation:

0

S3H These numbers follow a pattern.

1, 5, 25, 125, ___?___

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: 150

Explanation:

You add 5 more to what you add

0

S3I These numbers follow a pattern.

1, 5, 25, 125, ___?___

What number is next in this pattern? Write the number. Then explain why you think that is the next number.

Next number: 225

Explanation:

225 is because you count by 5.

0

22. Patterns - OE

The pattern below is missing a number.

77, 69, 61, 53, 45, **?**, 29

What number is missing from the pattern?

Answer_____

Explain why you think this is the missing number.

_____
_____
_____
_____
_____
_____

23. Algebraic Concepts - MC

What is the value of *n* in this equation?

$8 = 56 \div n$

- ⦿ 7
- ○ 64
- ○ 408
- ○ 448

24. Classification and Logical Reasoning - MC

Liam had to solve this problem in math class.

- The first digit of a 3-digit number is 1 less than the second digit.
- The third digit of a 3-digit number is double the second digit.
- The third digit is 8.

What is the 3-digit number?

- ○ 548
- ○ 438
- ⦿ 348
- ○ 238

25. Mathematical Applications

E-1 Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly** 30 minutes.

E1A Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
~~A~~	4 minutes 30 seconds
~~B~~	5 minutes 30 seconds
~~C~~	5 minutes 40 seconds
~~D~~	6 minutes 20 seconds

Commercial Choices

Commercial	Length
~~E~~	30 seconds
F	45 seconds
~~G~~	1 minute
H	1 minute 15 seconds
~~J~~	1 minute 30 seconds
K	1 minute 45 seconds
~~L~~	2 minutes

3

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show ~~how the~~ schedule of songs and commercials total **exactly** 30 minutes.

A	4M	30S
L	2M	00S
B	5M	30S
G	1M	00S
C	5M	40S
D	1M	30S
D	6M	20S
F	0M	30S
H	1M	15S
K	1M	45S
	30M	0S

E1B Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

3

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly** 30 minutes.

A 4 min 30 sec
B + 5 min 30 sec
9 min 60 sec → 10 min

C 5 min 40 sec
D + 6 min 20 sec
11 min 60 sec → 12 min

10 min
+ 12 min
22 min
L + 2 min
24 min
K 1 min 45 sec
25 min 45 sec

25 m 45 s
H + 1 m 15 s
27 m
J + 1 m 30 sec
28 m 30 sec
E + 30 sec
29 m
G + 1 m
30 m

E1C Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

3

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly** 30 minutes.

commercial F	45 seconds
Song A	4:30
commercial L	2 minutes
Song B	5:30
commercial J	1:30
Song C	5:40
commercial K	1:45
Song D	6:20
commercial L	2 minutes

E1D Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

2

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly** 30 minutes.

A 4:30 H 1:15
J 1:30 C 5:40
D 6:20 G 1:00
K 1:45 E 0:45
B + 5:30 L 2:00
19:35 + 10:25 = 30:00

E1F Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

2

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly** 30 minutes.

A, G, B, L, C, J, H, D, K, E

E1G Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

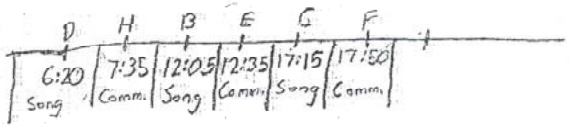
Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

1

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly** 30 minutes.



E1H Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

1

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly** 30 minutes.

A Song
E Commercial
B Song
F commercial
C Song
G commercial
D song

E1I Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

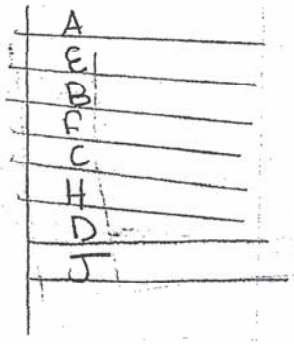
Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

1

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly** 30 minutes.



E1J Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

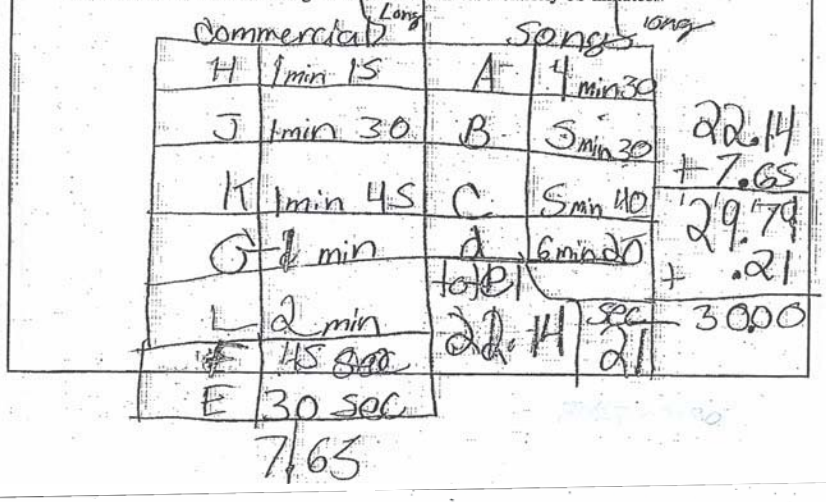
Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly 30 minutes**.

0



E1K Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

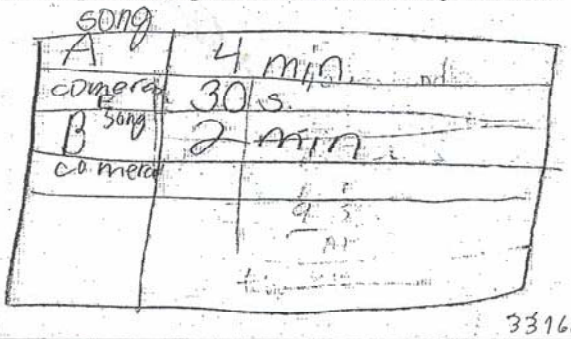
Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly 30 minutes**.

0



E1L Regina, the disc jockey at a radio station, needs to schedule songs and commercials for each 30-minute period she works. The songs and commercials Regina can use for one 30-minute period are in the table below.

Song Choices

Song	Length
A	4 minutes 30 seconds
B	5 minutes 30 seconds
C	5 minutes 40 seconds
D	6 minutes 20 seconds

Commercial Choices

Commercial	Length
E	30 seconds
F	45 seconds
G	1 minute
H	1 minute 15 seconds
J	1 minute 30 seconds
K	1 minute 45 seconds
L	2 minutes

In the space below, develop a schedule Regina can use given the following:

- She needs to play each song once.
- She must play at least one commercial between each song.
- She must play at least 3 different commercials.

Show how the schedule of songs and commercials total **exactly** 30 minutes.

4 minutes 30 seconds
5 minutes 30 seconds
5 minutes 40 seconds
6 minutes 20 seconds
30 seconds
45 seconds
1 minute
1 minute 15 seconds
1 minute 30 seconds
1 minute 45 seconds
2 minutes.

25. Mathematical Applications

You are going to have a Fourth of July picnic for your family. You estimate that:

- 25 people will have 2 hamburgers and 2 rolls each;
- 15 people will have 1 hamburger and 1 roll each;
- 20 people will have 1 hamburger and no roll each.

Hamburgers and rolls are sold two ways each:

Hamburgers	Rolls
8 for $1.75	6 rolls for $0.75
12 for $2.15	18 rolls for $1.80

Use this information to order enough hamburgers and rolls for the people coming to your picnic. Show how many packages of each size of hamburgers and rolls you will buy. Compute the final cost of all the items. Show how you arrived at your answers

ITEMS	Number of Packages	Cost
8 hamburgers/$1.75		
12 hamburgers/$2.15		
6 rolls/$0.75		
18 rolls/$1.80		

Total Cost: _____

Connecticut Mastery Test – Fourth Generation
Mathematics Grade 5 Vocabulary List

About
Accurate
Add
All together
A.M.
Angle(s)
Answer
Area
Array
Arrange
Arrive at(as in determine)
Arrow
At least
Average
Axis
Bar graph
Between
Capacity
Cardinal numbers
Celsius degree
Centimeter
Change (as in money)
Chart
Circle
Circle graph
Classify
Clock (analog and digital)
Closest to
Column
Combine
Combination
Common attribute
Compare
Conclusion
Congruent
Coordinates
Cup
Data
Day
Days of the week
Decimal
Depth
Denominator
Describe
Design
Determined
Diagram
Difference
Different
Digit
Divide
Elapsed time
Equal
Equation
Equilateral
Equilateral triangle
Equivalent
Estimate
Exactly
Explain
Expression
Event
Factor
Fahrenheit degrees
Fair
Farthest
Fewer, fewest
Fewer than
Figure (as in geometric figure)
Foot
Fraction
Fractional Part
Gallon
Grams
Graph
Greatest
Grid (dot paper)
Grouped
Growing patterns
Half
Half-Inch
Height (s)
Hexagon
Highest
Hour
How many more
How many less
Hundred (s)
Hundredths
Improper fraction
Inch
In common
Integers
Interval
Kilogram
Kilometer
Larger/larger than
Least
Least likely
Length
Less
Less than
Likely
Line graph
Line of Symmetry
Line plot
Line segment
Liter
Locate
Long, longer, longest
Lowest
Mass
Mathematical thinking
Measure
Meter
Mile
Milliliter
Minute
Missing
Mixed number
Month
More
More than
Most
Most likely
Multiple
Multiply
Nearest
No less than
No more than
Number fact
Number line
Number sentence
Numerator
Odd number
Ones
Open Sentence
Operation
Order (numbers)
Ordinal numbers (first, second, etc.)
Ordered Pairs
Ounce
Parallel
Parallelogram
Pattern
Pentagon
Percent
Perimeter
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, rounded
Row (s)
Same/ the same as
Scale (graphs)
Schedule
Segment
Set
Shaded
Shape
Short, shorter, shortest
Side (s)
Similar
Size
Smaller/ smaller than
Solve/Solution
Sort
Spinner
Square
Square centimeter
Square foot
Square inch
Square unit
Square yard
Story problem
Subtract
Sum
Symbol
Symmetry
Table
Tall, taller, tallest
Tens
Thousands
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.