

Name \_\_\_\_\_ Date \_\_\_\_\_ Part 1

(5C)

1. Write a story problem that can be solved using the number sentence  $2 + 5 = \square$ .

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2. Write a story problem that can be solved using the number sentence  $20 + 50 = \square$ .

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(11A)

3. Mrs. Schaffrick had 89 money trees in her back yard. She also had 31 jewelry trees.

**About** how many trees did she have?

- 100
- 200
- 300
- 400

4. At the music store, a saxophone cost \$719 and a clarinet cost \$899. What is a **reasonable** estimate for the cost of the two instruments?

- \$1500
- \$1600
- \$1700
- \$1800

5. Miss Killiany read 248 pages the first day. On the second day, she read 124 pages.

**About** how many pages did she read in all?

- 320       360
- 340       380

(11A)

6. Miss Norris was counting money that she found on the playground. She found 82¢ on Thursday. On Friday, she found 49¢. **About** how many more cents did she find on Thursday than on Friday?

- 20
- 30
- 40
- 50

7. Mrs. Howarth has 125 red rose bushes and 390 yellow rose bushes. **About** how many rose bushes does she have altogether?

- less than 400
- between 400 and 500
- between 500 and 600
- more than 600

8. Mrs. Springer had 87 pairs of ruby slippers. She also had 29 pairs of solid gold slippers.

**About** how many more pairs of ruby slippers does she have than gold slippers?

- less than 20
- between 30 and 40
- between 50 and 60
- more than 70

(11A)

9. Mr. Mastery bought a math book for \$7.25. He paid for it with a \$10 bill. What is a **reasonable** estimate for his change?

- \$1
- \$2
- \$3
- \$4

10. John bought a bottle of water for \$1.15. He gave the clerk \$5.00. **About** how much change should he receive?

- a little less than \$3
- a little more than \$3
- a little less than \$4
- a little more than \$4

11. Mrs. Gill paid for a gorgeous green guppy with a \$5 bill. The gorgeous green guppy cost Mrs. Gill \$2.98. **About** how much change should she have?

- a little less than \$2
- a little more than \$2
- a little less than \$3
- a little more than \$3

(11A)

12. Mrs. Syman bought 38 gold stars. Mrs. Parsons bought 67 silver stars. **About** how many more silver stars were bought than gold stars?

- a little less than 30
- a little more than 30
- a little less than 40
- a little more than 40

13. Mr. Tate baked 215 chocolate cupcakes and 198 yellow cupcakes. **About** how many cupcakes did he bake altogether?

- a little less than 300
- a little more than 300
- a little less than 400
- a little more than 400

14. Mrs. Aseltine had 542 gold bars. She gave Mrs. Cassin 257 of the bars. **About** how many bars did she keep for herself?

- a little less than 200
- a little more than 200
- a little less than 300
- a little more than 300

(11A)

15. Mrs. Lohr (Lor) ate between 2 and 5 apples a week for 3 weeks. **About** how many apples could she have eaten?

- 14
- 17
- 20
- 23

16. Jim worked all summer mowing grass. He saved between \$5 and \$10 a week for 8 weeks. **About** how much money could he have saved?

- \$ 30
- \$ 60
- \$ 90
- \$120

17. Mrs. Larson's roof was leaking. Between 6 and 8 buckets filled with water every hour for 2 hours. **About** how many buckets could have been filled?

- 5
- 10
- 15
- 20

(11A)

18. Tito bought 10 pads of paper. They cost in the range of \$4 to \$9 each. **About** how much money could the pads of paper cost altogether?

- \$13
- \$23
- \$33
- \$43

19. Herminio ran between 5 and 8 miles a week for 4 weeks. **About** how many miles could he have run?

- 179
- 34
- 52
- 71

20. Mr. Peps sold between 7 and 11 sodas every hour for 3 hours. **About** how many sodas could he have sold?

- 10
- 20
- 30
- 40

Name \_\_\_\_\_  
(16C)

Date \_\_\_\_\_

Part 2  
(16C)

1. What is the **best** unit to use to measure how far you could ride your bike in two hours?

- centimeter
- kilometer
- meter
- foot

2. The height of a telephone pole is **best** measured in

- inches
- feet
- miles
- gallons

3. The distance from Hartford to Boston is **best** measured in

- miles
- inches
- feet
- yards

4. How tall is Maria?

- 105 meters
- 105 centimeters
- 105 kilometers
- 105 millimeters

5. Which object would be about 8 inches long?

- a person's foot
- a football field
- an automobile
- an airplane

6. Which object would be about 12 centimeters long?

- a school bus
- an elephant
- a pencil
- a desktop

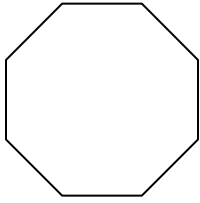
7. Which object would be about 2 yards long?

- a bed
- a key
- a mouse
- a paper clip

8. Which object would be about 5 meters wide?

- a cell phone
- a banana
- a shoe
- a room

(17A)



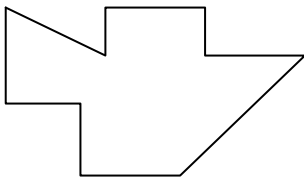
9. How many angles does this shape have?

- 4
- 6
- 8
- 10

10. What is the name of shape A?

- parallelogram
- square
- pentagon
- hexagon

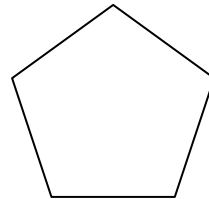
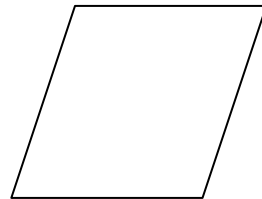
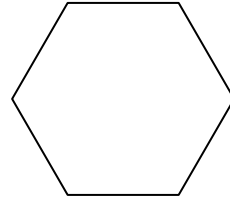
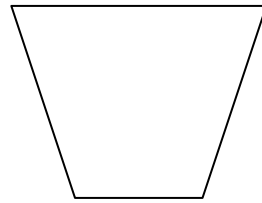
11. How many sides does this shape have?



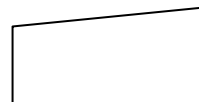
- 10
- 11
- 12
- 13

(17A)

12. Which shape is a pentagon?



13. What is the name of this shape?



- hexagon
- trapezoid
- pentagon
- rectangle

(17A)

14. Which shape has exactly 3 equal sides?

- right triangle
- scalene triangle
- equilateral triangle
- isosceles triangle

(17A)

16. Which shape has exactly 6 angles?

- parallelogram
- quadrilateral
- equilateral triangle
- hexagon

15. Which shape is a quadrilateral?

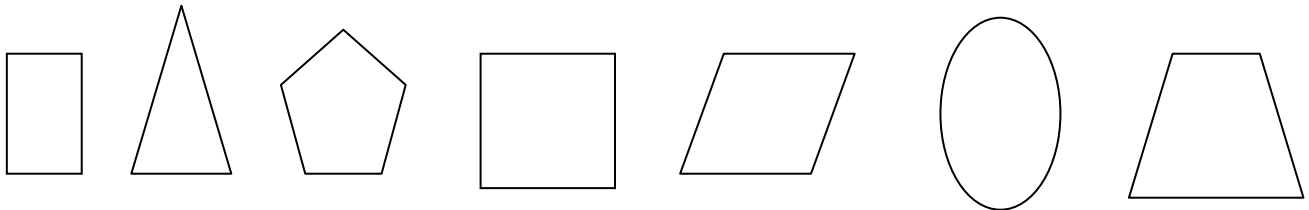
- triangle
- rectangle
- pentagon
- hexagon

17. What is a square?

- a polygon with 3 equal sides
- a polygon with 5 angles
- a quadrilateral with 4 right angles
- a quadrilateral with 6 equal sides

(17B)

18. Write an C inside all the quadrilaterals.



Write one or two sentences that explain what a quadrilateral is.

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(19B)

21. Complete and label the **bar** graph using the following data. Do **not** shade the bars.

<i>MIDDLE SCHOOL ELECTION RESULTS</i>	
STUDENTS	NUMBER OF VOTES
Steve McQueen	80
Kate Hepburn	50
Spencer Tracy	100
Harrison Ford	60

***MIDDLE SCHOOL ELECTION RESULTS***

**NUMBER OF VOTES**



Steve McQueen      Kate Hepburn      Spencer Tracy      Harrison Ford

**STUDENTS**

(19B)

22. Complete and label the **pictograph** using the following information.

BRIAN'S CAP COLLECTION

<i>SPORT</i>	<i>NUMBER OF CAPS</i>
Baseball	28
Basketball	16
Hockey	24
Football	12

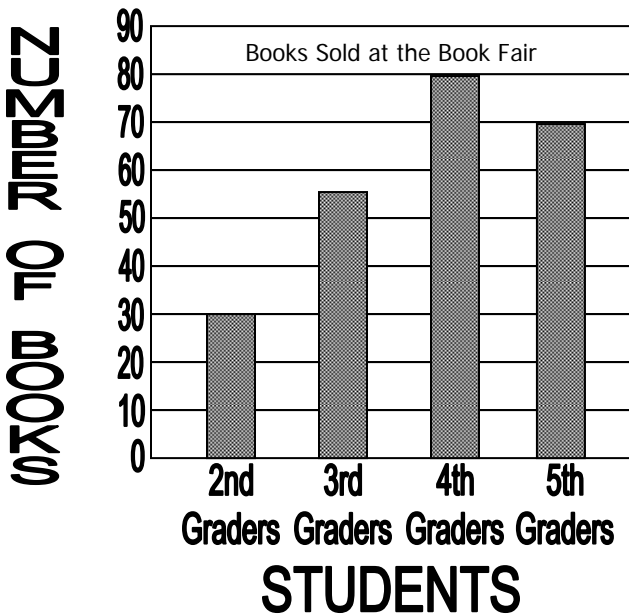
Let  $\Delta = 4$  caps.

SPORT	NUMBER OF CAPS

Let  $\Delta = 4$  caps

(19A)

The graph shows how many books students bought at the book fair. Use the graph to answer the questions.



23. How many books did the 3<sup>rd</sup> and 5<sup>th</sup> graders buy in all?

- 100
- 125
- 135
- 150

24. How many **more** books would the second graders need to buy to have as many books as the third graders bought?

- 15
- 20
- 25
- 30

(19A)

Use this graph to answer questions 25 and 26.

The **pictograph** shows results of a fourth grade survey about things that students like to collect.

FAVORITE OBJECTS TO COLLECT

Object	Number of Students
Money	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Action Figures	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Hot Wheel Cars	<input type="checkbox"/> <input type="checkbox"/>
Barbie Dolls	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Baseball Cards	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Let  = 4 Students

25. How many more students collect baseball cards than hot wheel cars?

- 4
- 8
- 12
- 16

26. How many objects were collected by **fewer** than 12 students?

- 1
- 2
- 3
- 4

(19A)

The table shows the results of a fourth grade survey in which students picked their favorite *BEN & JERRY'S* ice cream flavor.

FAVORITE <i>BEN &amp; JERRY'S</i> ICE CREAM FLAVORS		
ICE CREAM FLAVOR	GIRLS	BOYS
Chunky Monkey	43	21
Cherry Garcia	46	30
Cookie Dough	19	16
Phish Food™	39	57

27. Which flavor was the **most** popular?

- Chunky Monkey  
 Cherry Garcia  
 Cookie Dough  
 Phish Food™

28. Which flavor was liked by **fewer** girls than boys?

- Chunky Monkey  
 Cherry Garcia  
 Cookie Dough  
 Phish Food™

(19A)

### NUMBER OF MUFFINS SOLD

	Week One	Week Two	Week Three
<b>Cranberry</b>	25	54	62
<b>Oatmeal</b>	19	85	47
<b>Blueberry</b>	30	23	54
<b>Apple</b>	41	57	68

29. How many blueberry muffins were sold in Week 3?

- 23  
 47  
 54  
 62

30. How many cranberry muffins were sold in all?

- 25  
 116  
 231  
 565

The following items are intended for practice only of the 4<sup>th</sup> Generation CMT content and format, not for instruction of concepts. Much teaching must precede the use of these items to ensure children's success both in mathematics and on the CMT.

Topic 1: Exploring Mathematics  
REVISED September 10, 2006

PACKET 1: Topic 1

- 5C: Write addition story problems.
- 11A: Identify a reasonable estimate to a problem, including estimating change from \$1, \$5 and \$10.
- 16C: Identify appropriate customary or metric units of measure for a given situation.
- 17A: Identify 2-dimensional geometric shapes
- 17B: Draw, identify and describe 2-D geometric shapes
- 19A: Identify correct information from tables, bar graphs, pictographs, and charts.
- 19B: Construct bar and pictographs from data in tables and charts.

PACKET 2: Topic 1 – Extra CMT Practice (Not related to Topic 1 GWM)

- 4C: Round 2- and 3-digit whole numbers in context.
- 10A: Identify the best expression to find an estimate.
- 15A: Estimate lengths and areas.
- 16A: Measure lengths to the nearest inch, half-inch or centimeter.
- 16B: Draw lengths to the nearest inch, half-inch or centimeter.
- 24A: Solve logic, counting and classification problems involving the organization of data.
- 24B: Sort or classify objects, and draw logical conclusions from data including Venn diagrams and transitive reasoning questions.
- 25A: Solve extended numerical and statistical problems.

**Strand 11 – Estimating Solutions to Problems**  
**4 Multiple Choice**

- 11A. Identify best estimate to solve a problem - regular rounding problems  
Nearest ten for 2- and 3-digit numbers; Nearest hundred for 3-digit numbers
- 11A. Identify best estimate to solve a problem - range in the answers
- 11A. Identify best estimate to solve a problem - a little more and a little less
- 11A. Identify best estimate to solve a problem – estimate change from \$1, \$5, \$10
- 11A. Identify best estimate to solve a problem – ball park problems

Name \_\_\_\_\_ Date \_\_\_\_\_ (5C)

1. Write a story problem that can be solved using the number sentence  $2 + 5 = \square$ .

*Joining Model of Addition: Sue had a household staff of 2 people. Then she hired 5 more people to take care of the grounds. How many people are now part of Sue's staff?*

*Combined Model of Addition: Sue has 2 downstairs maids and 5 grounds – keepers. How many people does she have working for her?*

2. Write a story problem that can be solved using the number sentence  $20 + 50 = \square$ .

*Joining Model of Addition: Terri had 20 CDs in the bank. On her birthday, she received 50 more CDs. (Who gets Certificates of Deposit for their birthdays? Well, Terri, obviously.) How many CDs does she have in all?*

*Combined Model of Addition. Terri had 20 CDs in the bank collect interest. She also had 50 CDs in another bank collecting even more interest than in the first bank. How many CDs are collecting interest for Terri?*

#### Grade 4 (3<sup>rd</sup> Generation) Scoring Rubric: Writing Addition Story Problems

**2 Points:** The student writes a story problem that matches a given addition number sentence.

**1 Point:** The student writes a somewhat flawed response which:

- shows an error in transcribing the specified numbers, or
- does not complete the story problem, or
- goes beyond the scope of a given number sentence or uses the numbers in a way that does not make numerical sense, or
- fails to ask an appropriate question.

**0 Points:** The student does not write a story problem that matches a given addition number sentence or uses multiplication or division rather than addition.

2 Point Story Problem that is "implied" – Sarah has 2 boxes of yellow chalk. She has 5 boxes of white chalk. She has 7 boxes of chalk. (As long as she uses the number 7 correctly in the last sentence, this is a totally acceptable story problem. This objective is really asking "Does the child understand the concept of addition?" - not "Can the child write a story problem?"

(11A)

3. Mrs. Schaffrick had 89 money trees in her back yard. She also had 31 jewelry trees.

**About** how many trees did she have?

- 100 \*\*\*
- 200
- 300
- 400

Strategy Simple  
Rounding:  $90 + 30$   
 $= 120$

Front End with  
Adjustment:  $80 +$   
 $30 = 110$ , plus 9 =  
about 120

Change only one  
number:  $90 + 31$   
 $= 121$

4. At the music store, a saxophone cost \$719 and a clarinet cost \$899. What is a **reasonable** estimate for the cost of the two instruments?

- \$1500
- \$1600 \*\*\*
- \$1700
- \$1800

Strategy: Simple rounding  
( $700 + 900$ )

Front End with Adjustment:  
 $700 + 800 = 1500$ ;  
99 is almost another 100  
TOTAL is 1600

Change only one number:  
 $719 + 900 = 1619$

5. Miss Killiany read 248 pages the first day. On the second day, she read 124 pages.

**About** how many pages did she read in all?

- 320       360
- 340       380 \*\*\*

$248 \rightarrow 250$   
 $124 \rightarrow 125$   
 $\hline 375$

(11A)

6. Miss Norris was counting money that she found on the playground. She found 82¢ on Thursday. On Friday, she found 49¢. **About** how many more cents did she find on Thursday than on Friday?

- 20
- 30 \*\*\*
- 40
- 50

$82 \rightarrow 80$   
 $49 \rightarrow 50$   
 $\hline 30$

7. Mrs. Howarth has 125 red rose bushes and 390 yellow rose bushes. **About** how many rose bushes does she have altogether?

- less than 400
- between 400 and 500
- between 500 and 600 \*\*\*
- more than 600

Strategy:  
Change  
only one  
number  
 $125 + 400$   
 $= 525$

8. Mrs. Springer had 87 pairs of ruby slippers. She also had 29 pairs of solid gold slippers. **About** how many more pairs of ruby slippers does she have than gold slippers?

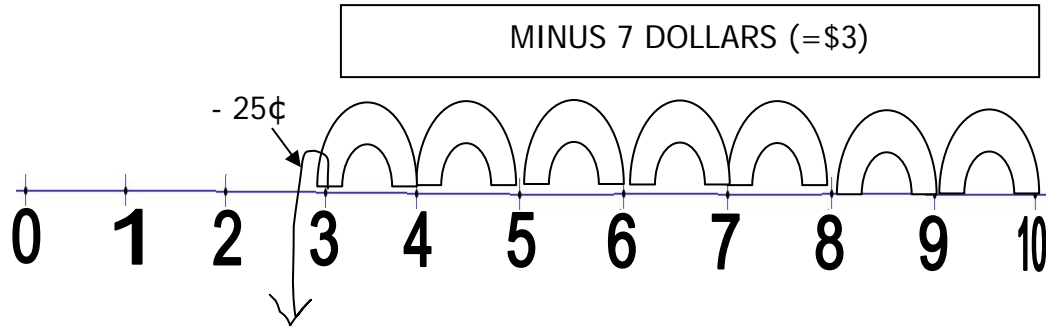
- less than 20
- between 30 and 40
- between 50 and 60 \*\*\*
- more than 70

$87 - 29 \rightarrow$   
 $87 - 30 =$   
 $57$

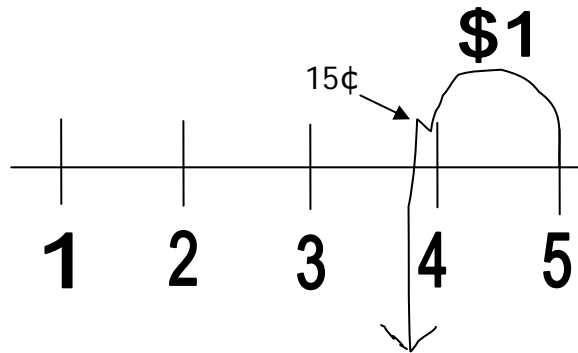
(11A)

9. Mr. Mastery bought a math book for \$7.25. He paid for it with a \$10 bill. What is a **reasonable** estimate for his change?

- \$1
- \$2
- \$3 \*\*\*
- \$4

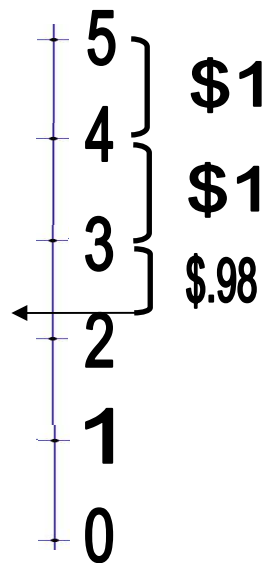


10. John bought a bottle of water for \$1.15. He gave the clerk \$5.00. **About** how much change should he receive?



11. Mrs. Gill paid for a gorgeous green guppy with a \$5 bill. The gorgeous green guppy cost Mrs. Gill \$2.98. **About** how much change should she have?

- a little less than \$2
- a little more than \$2 \*\*\*
- a little less than \$3
- a little more than \$3



(11A)

12. Mrs. Syman bought 38 gold stars. Mrs. Parsons bought 67 silver stars. **About** how many more silver stars were bought than gold stars?

- a little less than 30 \*\*\*
- a little more than 30
- a little less than 40
- a little more than 40

$$67 - 38 \rightarrow$$

$$\underline{67 - 40} = 27$$

38 was changed by 2 numbers (38  $\rightarrow$  40)  
So the "real" answer is either 2 more than 27 or 2 less than 27

Both  $27 + 2$  and  $27 - 2$  fall into the "less than 30" range

13. Mr. Tate baked 215 chocolate cupcakes and 198 yellow cupcakes. **About** how many cupcakes did he bake altogether?

- a little less than 300
- a little more than 300
- a little less than 400
- a little more than 400 \_\_\_\_

$$215 + 198 \rightarrow$$

$$\underline{215 + 200} = 415$$

14. Mrs. Aseltine had 512 gold bars. She gave Mrs. Cassin 297 of the bars. **About** how many bars did she keep for herself?

- a little less than 200
- a little more than 200 \*\*\*
- a little less than 300
- a little more than 300

$$512 \rightarrow 512$$

$$\underline{297 \rightarrow 300}$$

$$212$$

The numbers were changed by a total of 3. Whether the "real" answer is 3 more than 212 or 3 less than 212 doesn't matter for the estimate of a little more than 200

(11A)

15. Mrs. Lohr (Lor) ate between 2 and 5 apples a week for 3 weeks. **About** how many apples could she have eaten?

- 14 \*\*\*  
 17  
 20  
 23

2		5
2		5
<u>+2</u>		<u>+5</u>
6	←————→	15

16. Jim worked all summer mowing grass. He saved between \$5 and \$10 a week for 8 weeks. **About** how much money could he have saved?

- \$ 30  
 \$ 60  
 \$ 90 \*\*\*  
 \$120

$\$5 \times 8 \text{ wk} = \$40$ $\$10 \times 8 \text{ wk} = \$80$
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17. Mrs. Larson's roof was leaking. Between 6 and 8 buckets filled with water every hour for 2 hours. **About** how many buckets could have been filled?

- 5  
 10  
 15 \*\*\*  
 20

between 6 and 8 is 7
----------------------

$7 \times 2 \text{ hours} = 14$
---------------------------------

6		8	
<u>+6</u>	↑	<u>+8</u>	
12	15	16	
5	10	15	20

(11A)

18. Tito bought 10 pads of paper. They cost in the range of \$4 to \$9 each. **About** how much money could the pads of paper cost altogether?

- \$13  
 \$23  
 \$33  
 \$43 \*\*\*

Least amount is $10 \times 4 = \$40$ Greatest is $10 \times 9 = \$90$
--

Correct response is between 40 and 90
---------------------------------------

19. Herminio ran between 5 and 8 miles a week for 4 weeks. **About** how many miles could he have run?

- 17  
 29 \*\*\*  
 35  
 40

$5 \text{ miles} \times 4 \text{ weeks} = 20 \text{ miles}$ $8 \text{ miles} \times 4 \text{ weeks} = 32 \text{ miles}$
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Which is the only choice that is between 20 and 32?
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20. Mr. Peps sold between 7 and 11 sodas every hour for 3 hours. **About** how many sodas could he have sold?

- 10  
 20  
 30  
 40

Name \_\_\_\_\_ Date \_\_\_\_\_ Part 2

(16C)

(16C)

1. What is the **best** unit to use to measure how far you could ride your bike in two hours?

- centimeter
- kilometer \*\*\*
- meter
- foot

2. The height of a telephone pole is **best** measured in

- inches
- feet \*\*\*
- miles
- gallons

3. The distance from Hartford to Boston is **best** measured in

- miles \*\*\*
- inches
- feet
- yards

4. How tall is Maria?

- 105 meters
- 105 centimeters \*\*\*
- 105 kilometers
- 105 millimeters

5. Which object would be about 8 inches long?

- a person's foot \*\*\*
- a football field
- an automobile
- an airplane

6. Which object would be about 12 centimeters long?

- a school bus
- an elephant
- a pencil \*\*\*
- a desktop

7. Which object would be about 2 yards long?

- a bed \*\*\*
- a key
- a mouse
- a paper clip

8. Which object would be about 5 meters wide?

- a cell phone
- a banana
- a shoe
- a room \*\*\*

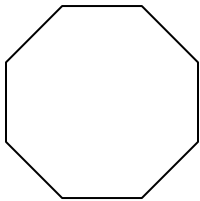
Grade 4 CMT Geometry Vocabulary:

circle  
equilateral triangle  
figure

hexagon  
parallelogram  
pentagon

polygon  
quadrilateral  
rectangle

square  
trapezoid  
triangle



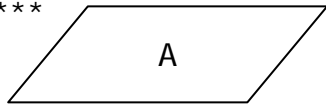
(17A)

9. How many angles does this shape have?

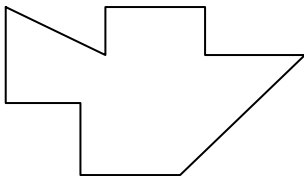
- 4
- 6
- 8 \*\*\*
- 10

10. What is the name of shape A?

- parallelogram \*\*\*
- square
- pentagon
- hexagon



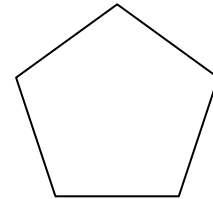
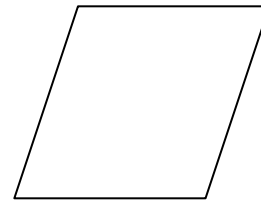
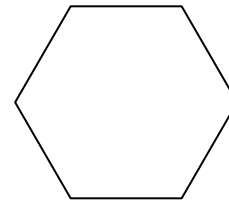
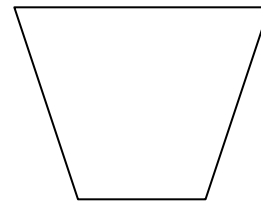
11. How many sides does this shape have?



- 10 \*\*\*
- 11
- 12
- 13

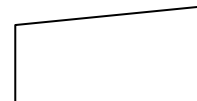
(17A)

12. Which shape is a pentagon?



\*\*\*

13. What is the name of this shape?



- hexagon
- trapezoid \*\*\*
- pentagon
- rectangle

(17A)

14. Which shape has exactly 3 equal sides?

- right triangle
- scalene triangle
- equilateral triangle \*\*\*
- isosceles triangle

(17A)

16. Which shape has exactly 6 angles?

- parallelogram
- quadrilateral
- equilateral triangle
- hexagon \*\*\*

15. Which shape is a quadrilateral?

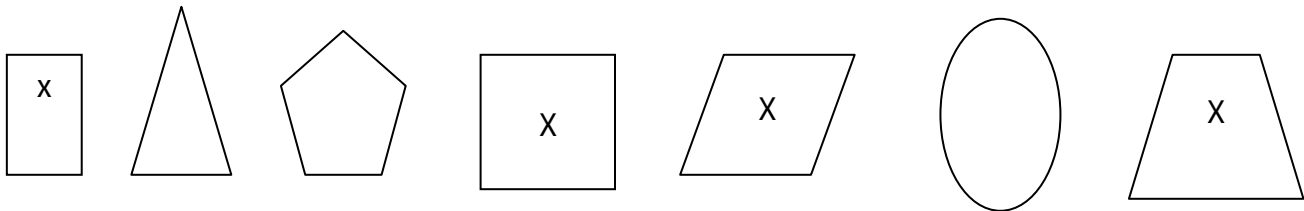
- triangle
- rectangle \*\*\*
- pentagon
- hexagon

17. What is a square?

- a polygon with 3 equal sides
- a polygon with 5 angles
- a quadrilateral with 4 right angles \*\*\*
- a quadrilateral with 6 equal sides

(17B)

18. Write an X inside all the quadrilaterals.



Write one or two sentences that explain what a quadrilateral is.

**Critical Attributes** that should be mentioned in the description include:

- being a POLYGON or saying that the sides are CLOSED
- having 4 sides

**One Possible Definition:** A quadrilateral is a 4-sided polygon

A quadrilateral is a shape with 4 closed sides.

(17B)

19. Draw a rectangle. Write one or two sentences to describe this figure.



**Critical Attributes that should be mentioned in the description include:**

- being a quadrilateral (having 4 closed sides) or a parallelogram
- having 2 pairs of congruent, parallel sides and 4 right angles

**One Possible Definition:** A rectangle is a parallelogram with 4 right angles.

### Grade 5 Scoring Rubric – 2<sup>nd</sup> Generation: Draw and Describe Geometric Figures

**2 Points:** The student draws a geometric shape or figure as prompted and describes it with reference to its critical attributes.

- Reasonable representation of the figure and explanation that describes critical attributes
- Critical attributes of the figure present in the drawing

**1 Point:** The student demonstrates some confusion about the critical attributes of the shape or figure named.

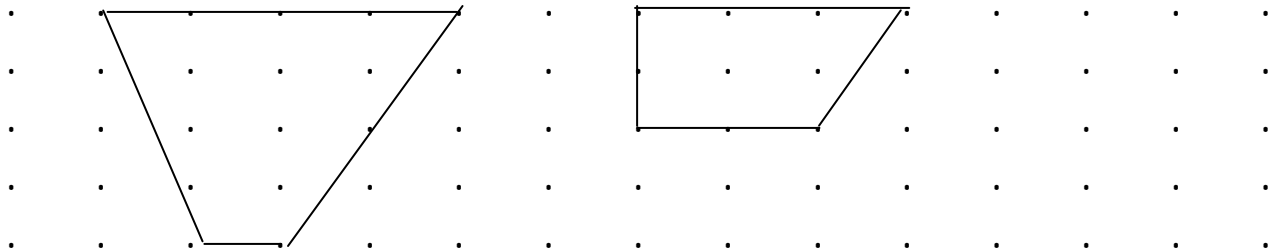
- Figure correct, but no description
- Figure correct, but description does not include critical attributes. Figure incorrect but description describes critical attributes of the figure named

**0 Points:** The student does not indicate that he or she knows the critical attributes of the shape or figure named.

- Incorrect or no shape, or no explanation or critical attributes not described

**NOTE:** The student may add to the drawing without being penalized. If the figure is recognizable in the drawing, the “embellishments” will be ignored.

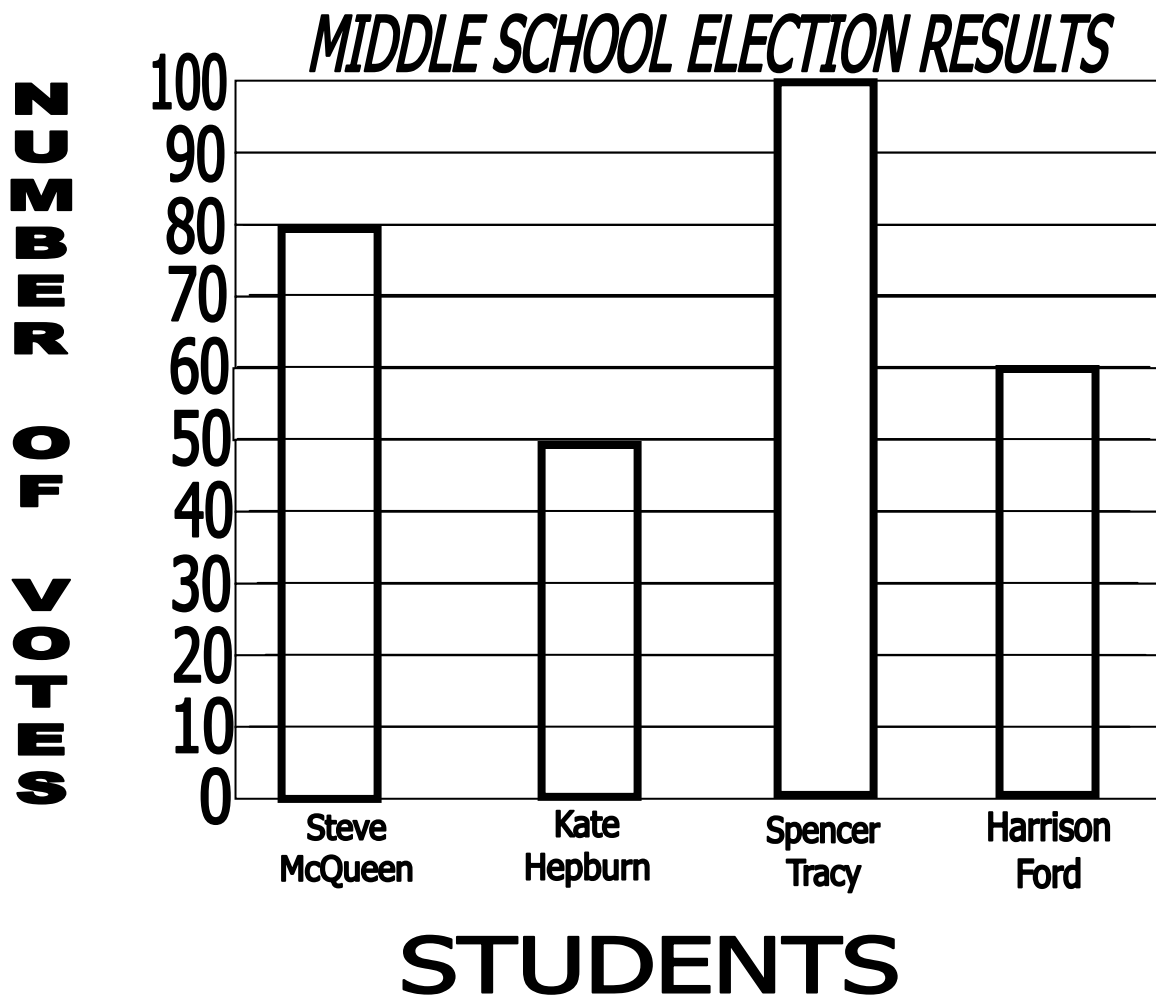
20. Draw a trapezoid. You may use the grid to help you. [*TWO POSSIBLE SOLUTIONS*]



(19B)

21. Complete and label the **bar** graph using the following data. Do **not** shade the bars.

<i>MIDDLE SCHOOL ELECTION RESULTS</i>	
STUDENTS	NUMBER OF VOTES
Steve McQueen	80
Kate Hepburn	50
Spencer Tracy	100
Harrison Ford	60



**SCORING RUBRIC FOR BAR GRAPHS: 2<sup>nd</sup> Generation CMT**

2 Points: The student creates a bar graph from given data.

- ~ All bars correct, or 1 bar off by a minor amount
- ~ A uniform scale defined or labels written on blank axis

1 Point: The student indicates some confusion about one or more components of bar graphs but conveys some correct information.

- ~ Some bars correct, but graph not complete OR some bars incorrect
- ~ Scale or labels incorrect or missing, but bars relatively correct
- ~ Graph marked in unconventional way, but conveys the information
- ~ Different type of graph but correct information
- ~ Bars for correct values but in wrong places
- ~ Bars not drawn to scale, but relatively correct

0 Points: The student does not convey the correct information on the graph.

- ~ Most of the graph incorrect or missing
- ~ Scale or labels incorrect or missing, and bars incorrect
- ~ Different type of graph and not correct information
- ~ Numbers just copied from the table
- ~ Markings not matched to information in table

NOTES: Lines drawn for bars are considered "thin" bars.

When a student repeats the error, it should only count as one error.

Must label axis  
Number the **LINES**, not the spaces  
Always number the bottom line 0


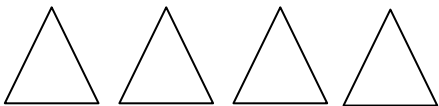
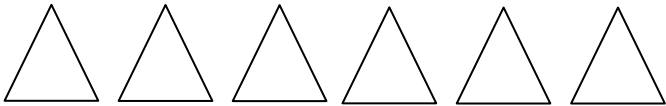

(19B)

22. Complete and label the **pictograph** using the following information.

BRIAN'S CAP COLLECTION

<i>SPORT</i>	<i>NUMBER OF CAPS</i>
Baseball	28
Basketball	16
Hockey	24
Football	12

Let  $\Delta = 4$  caps.

<i>SPORT</i>	<i>NUMBER OF CAPS</i>
<i>Baseball</i>	
<i>Basketball</i>	
<i>Hockey</i>	
<i>Football</i>	

Let  $\Delta = 4$  caps

PICTOGRAPHS: 2<sup>ND</sup> Generation Scoring Rubric

2 Points: The student creates a pictograph from given data.

- Correct number of symbols in each group
- Symbol consistent for entire graph, but not necessarily the same as the symbol shown
- Size and spacing of symbols consistent
- Fractional values (if necessary) represented

1 Point: The student indicates some confusion about one or more components of pictographs but conveys some correct information.

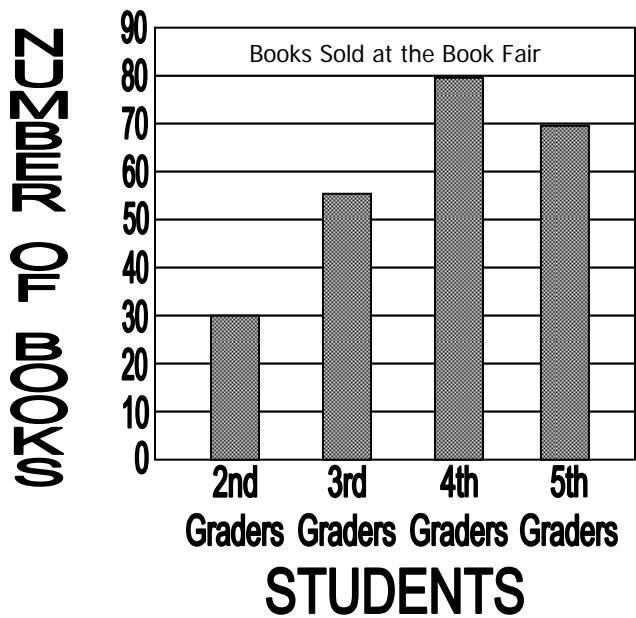
- Some groups of symbols correct, but graph not complete or some groups incorrect
- One-to-one correspondence of symbols to number instead of using key
- Different type of graph, but correct information
- Symbols for correct values, but in wrong places
- Size and spacing not consistent, so it is necessary to count symbols to determine relative size of groups

0 Points: The student does not convey the correct information on the graph.

- Most of the graph is incorrect or missing
- Different type of graph and information not correct
- Numbers just copied from the table
- Markings not matched to information in table

(19A)

The graph shows how many books students bought at the book fair. Use the graph to answer the questions.



23. How many books did the 3<sup>rd</sup> and 5<sup>th</sup> graders buy in all?

- 100
- 125 \*\*\*
- 135
- 150

24. How many **more** books would the second graders need to buy to have as many books as the third graders bought?

- 15
- 20
- 25 \*\*\*
- 30

(19A)

Use this graph to answer questions 25 and 26.

The **pictograph** shows results of a fourth grade survey about things that students like to collect.

FAVORITE OBJECTS TO COLLECT

Object	Number of Students
Money	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Action Figures	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Hot Wheel Cars	<input type="checkbox"/> <input type="checkbox"/>
Barbie Dolls	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Baseball Cards	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

Let  = 4 Students

25. How many more students collect baseball cards than hot wheel cars?

- 4
- 8
- 12
- 16 \*\*\*

Cards = 24
Cars = 8

26. How many objects were collected by **fewer** than 12 students?

- 1 \*\*\*
- 2
- 3
- 4

Money = 20 students
Figures = 12 stud.
Cars = 8 students ****
Dolls = 16 students
Cards = 24 students

(19A)

The table shows the results of a fourth grade survey in which students picked their favorite *BEN & JERRY'S* ice cream flavor.

FAVORITE <i>BEN &amp; JERRY'S</i> ICE CREAM FLAVORS		
ICE CREAM FLAVOR	GIRLS	BOYS
Chunky Monkey	43	21
Cherry Garcia	46	30
Cookie Dough	19	16
Phish Food™	39	57

27. Which flavor was the **most** popular?

- Chunky Monkey ( $40 + 24 = 64$ )  
 Cherry Garcia ( $46 + 30 = 76$ )  
 Cookie Dough ( $20 + 15 = 35$ )  
 Phish Food™ ( $40 + 56 = 96$ ) \*\*

28. Which flavor was liked by **fewer** girls than boys?

- Chunky Monkey (More girls)  
 Cherry Garcia (More girls)  
 Cookie Dough (More girls)  
 Phish Food™ (Fewer girls) \*\*

(19A)

### NUMBER OF MUFFINS SOLD

	Week One	Week Two	Week Three
<b>Cranberry</b>	25	54	62
<b>Oatmeal</b>	19	85	47
<b>Blueberry</b>	30	23	54
<b>Apple</b>	41	57	68

29. How many blueberry muffins were sold in Week 3?

- 23  
 47  
 54 \*\*\*  
 62

30. How many cranberry muffins were sold in all?

- 25  
 116  
 231  
 565 \*\*\*