LETTER HOME

Geometric Investigations

Dear Family Member:

In this unit, your child will explore geometry and measurement, reason mathematically, and communicate about mathematics. As your child investigates relationships between length, area, and perimeter, he or she will collect and organize data, create and interpret graphs, and make and check predictions.

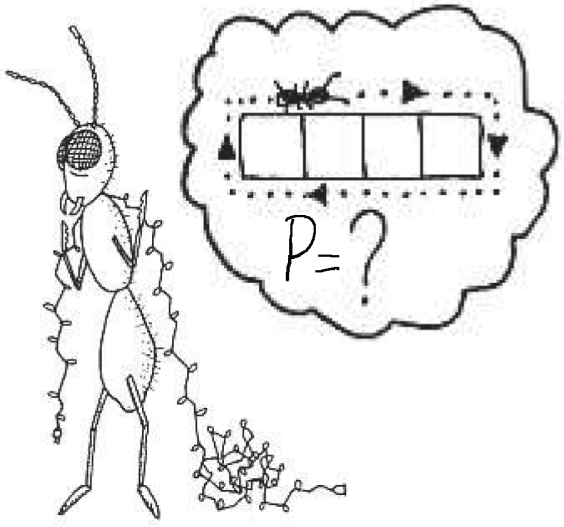
Along with geometric investigations, your child will also review the subtraction facts.

As we explore mathematics concepts in the classroom, you can help by providing mathematical opportunities at home. For example:

Design Challenge. Encourage your child to tell you about Myrna, the ant who is designing airport runways for the imaginary city of Antopolis. Ask how the class investigation will help Myrna design her runways.

Perimeter. Help your child compare the perimeters of two of the rooms in your home. The perimeter is the length around the outside border of a room.

Area. Ask your child to find the area of different shapes using a variety of units and strategies.



The perimeter of a rectangle is the distance around it.

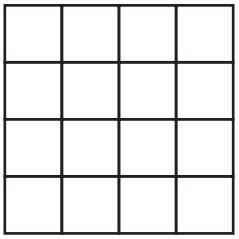
Geometric Relationships. Help your child continue to investigate the relationships between area, perimeter and shape.

- Ask your child to choose an area and make a shape with a large perimeter and a shape with a small perimeter.

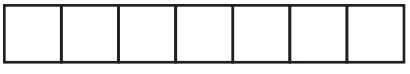
Area: 8 square inches
Perimeter: 12 inches

Area: 8 square inches
Perimeter: 18 inches

- Ask your child to choose a perimeter and make a shape with a small area and one with a large area.



Area: 16 square inches
Perimeter: 16 inches



Area: 7 square inches
Perimeter: 16 inches

- Ask your child to choose a perimeter and make two shapes with the same area.

Math Facts and Mental Math

Subtraction Facts. In this unit, students review the subtraction facts and are assessed for fluency. This review will help identify students' needs. Help your child by using the activities below.

Students should have developed fluent strategies for solving the subtraction facts in the earlier years. The subtraction facts were reviewed and sorted into groups by strategy. See Figure 1.

Groups	Facts	Strategies Used
1 2	$12-9, 12-10, 13-9, 13-10, 13-4,$ $15-9, 15-10, 15-6, 19-10,$ $14-10, 14-9, 14-5, 17-10, 17-9,$ $11-9, 16-9, 16-7, 16-10$	Using Tens or Thinking Addition
3 4	$10-4, 9-4, 11-4, 10-8, 11-8,$ $9-5, 10-6, 11-6, 11-5,$ $10-7, 9-7, 11-7, 10-2, 9-2, 9-3,$ $10-3, 11-3, 9-6$	Making Tens and Thinking Addition
5 6	$7-3, 7-5, 7-2, 11-2, 8-6, 5-3,$ $8-2, 4-2, 5-2,$ $6-4, 6-2, 13-5, 8-5, 8-3, 13-8,$ $12-8, 12-4, 12-3$	Counting or Thinking Addition
7 8	$14-7, 14-6, 14-8, 12-6, 12-7,$ $12-5, 10-5, 13-7, 13-6,$ $15-7, 16-8, 17-8, 18-9, 18-10,$ $8-4, 7-4, 6-3, 15-8$	Using Doubles or Thinking Addition

Figure 1: *Subtraction Facts Groups as reviewed in ealier grades*

If needed, you can help your child review these facts using the flash cards that are sent home or by making a set of flash cards from index cards or scrap paper. Study the facts in small groups each night. As your child goes through the flash cards, put the cards in three stacks: Facts I Know Quickly, Facts I Can Figure Out, and Facts I Need to Learn.

For Facts I Need to Learn, work on strategies for figuring them out.

For Facts I Can Figure Out, use the flash cards to practice the facts for fluency. Pose problems that come up in daily life. For example, "We had 12 eggs and now there are 5 left; how many have we eaten?"

For Facts I Know Quickly, help your child use strategies to solve problems like these using mental math:

Subtracting 10s, 100s, and 1000s. $9634-3000$, $805-200$, $564-30$

Multidigit minus one-digit problems. $98-9$ (practices $18-9$), $435-7$ (practices $15-7$), $234-6$ (practices $14-6$)

Thank you for taking time to talk with your child about what he or she is doing in math. I look forward to working with you and your child during this school year. Please feel free to contact me with any questions, concerns, or comments.

Sincerely,

Name _____ Date _____

Unit 2: Home Practice

Part 1 Addition and Subtraction Practice

A. 60 + 30 = _____

B. 90 + 30 = _____

C. 60 + 60 + 60 = _____

D. 80 – 60 = _____

E. 100 – 70 = _____

F. 130 – 60 = _____

G. 150 – 80 = _____

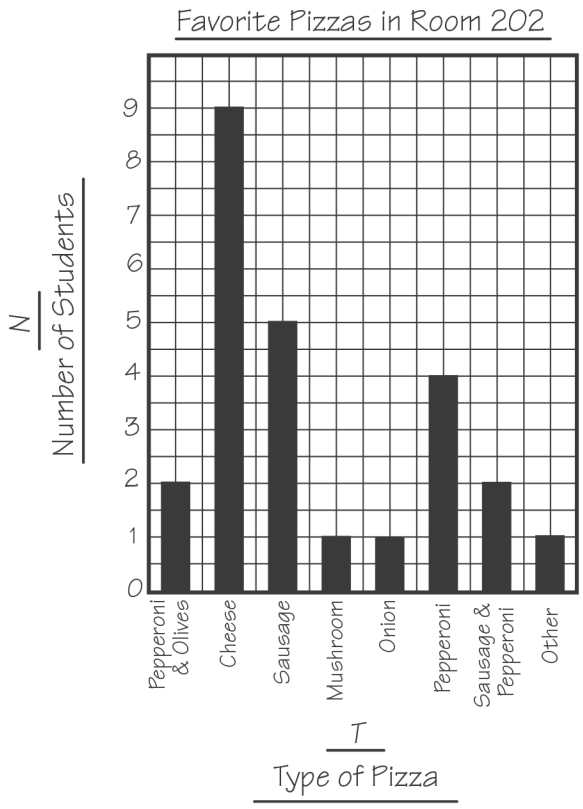
H. 150 – 90 = _____

I. 180 + 30 = _____

J. 210 – 20 = _____

Part 2 Reading Bar Graphs

Room 202 collected data on the types of pizza they like. Their graph is shown here.



1. How many students like only cheese on their pizza?

   _____

2. How many more students prefer a plain cheese pizza than a pizza with mushrooms?

   _____

3. How many students like pizza that has pepperoni on it?

   _____

4. How many students are in Room 202? _____

5. Is Type of Pizza a categorical or numerical variable?

   _____

6. Is Number of Students a categorical or numerical variable?

   _____

7. Which variable did Room 202 graph on the horizontal axis?

   _____

Name _____ Date _____

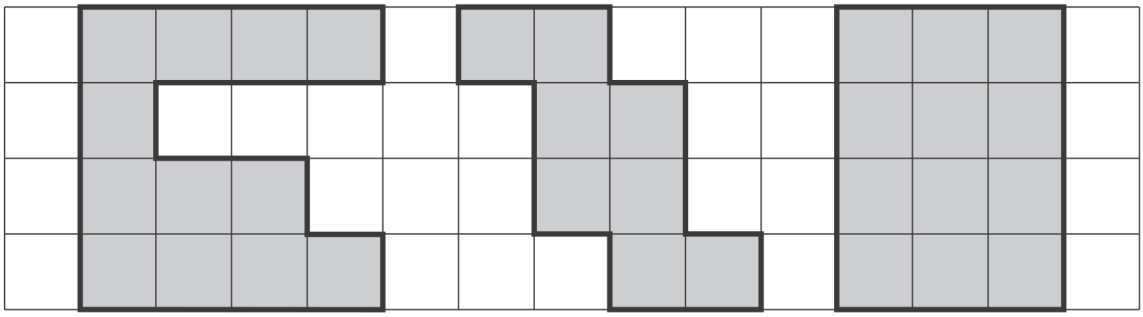
Part 3 Area and Perimeter


1 sq cm


1 cm

1. Find the area and perimeter of the shapes. Include the unit of measurement.

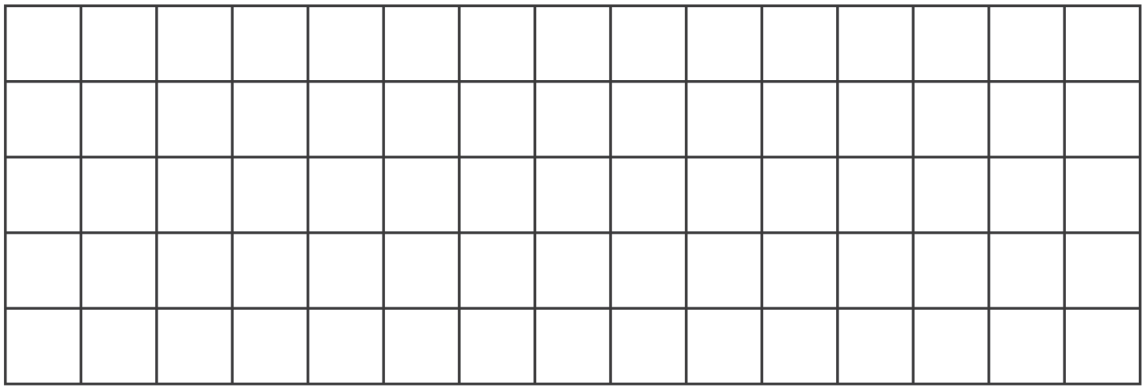
A. **B.** **C.**



Area _____ Area _____ Area _____

Perimeter _____ Perimeter _____ Perimeter _____

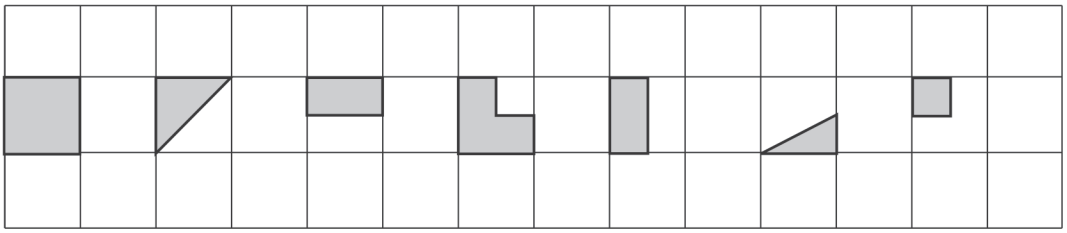
2. Draw a shape that has a perimeter of 20 cm. Label the shape with its area.



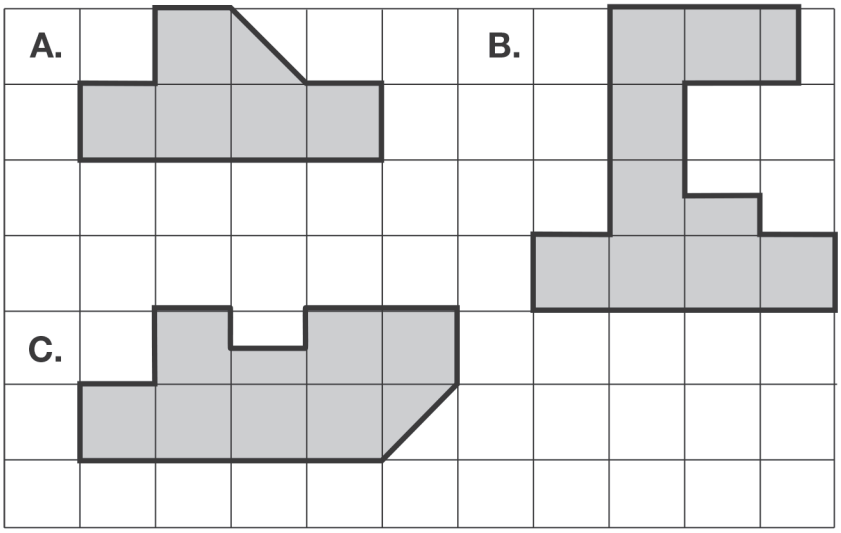
Name _____ Date _____

Part 4 Finding Area

1. Circle the shapes that show $\frac{1}{2}$ of a square centimeter.



2. Find the area of the shapes below. Include the unit of measurement.

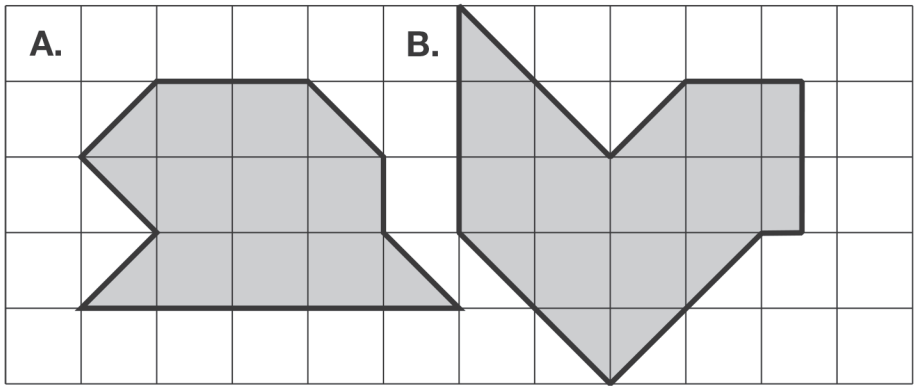


A. Area _____

B. Area _____

C. Area _____

3. Find the area of the shapes below.



A. Area _____ **B.** Area _____

Name _____ Date _____

Part 5 Subtraction Practice

Do the following problems in your head.

A. 11 – 9 = _____

B. 13 – 4 = _____

C. 12 – 3 = _____

D. 13 – 8 = _____

E. 12 – 8 = _____

F. 101 – 3 = _____

G. 92 – 4 = _____

H. 52 – 48 = _____

I. 171 – 167 = _____

J. 134 – 5 = _____

K. Explain how you solved 52 – 48.

Part 6 Skip Counting

1. Skip count by fives backward from 90. Record the numbers below as you say them.

_____

_____

2. Skip count by threes backward from 60. Record the numbers.

_____

_____

3. Skip count by 7s to 63. Record the numbers.

_____

_____

Name _____ Date _____

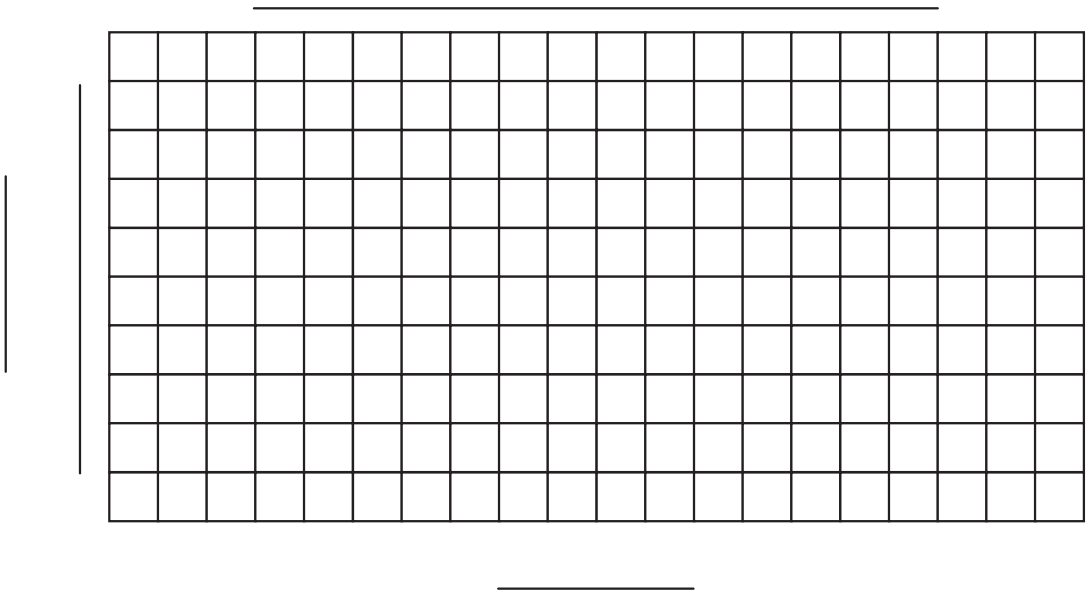
Part 7 Point Graphs

Nila checked the baby-shoe size of her little cousins and also wrote down their ages. She collected the data in this table.

Name	Age in Months	Shoe Size	Ordered Pairs (Mos., Size)
Hayden	12	4	
Charlie	34	7	
Anita	20	5	
Hope	26	7	
Willis	32	8	

1. Write Nila's data as ordered pairs in the table.
2. Graph the data in a point graph using the graph below.
3. What variable did you put on the horizontal axis? _____
   The vertical axis? _____
4. Who is the oldest little cousin? _____ The youngest? _____
5. Who wears the largest size? _____ The smallest size? _____
6. What does the graph tell you about the relationship between age and shoe size?

7. How many years old is Hayden? _____ Hope? _____
8. If Riley's shoe size is 6, about how old do you think he is? _____



Name _____ Date _____

Part 8 Shopping with Grandmother

Solve the following problems. Show how you solved each one using drawings or words.

1. Ming and his grandmother went shopping at the mall. The mall has two floors. The first floor has 62 stores. The second floor has 48 stores. How many stores are in the mall?

2. The mall newspaper claims that nearly half the stores are participating in a fall sale. About how many stores are participating in the fall sale?

3. The bus fare to the mall was 85¢ for his grandmother and 75¢ for Ming. What was the total bus fare to and from the mall? (Remember, they need to come home too!)

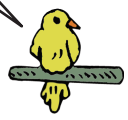
Name _____ Date _____

4. Linda showed this work for Question 3. What would you add to Linda's solution to make it more clear?

3.

$$\begin{array}{r} 170 \\ +\ 150 \\ \hline 320 \end{array}$$

Math Practices Expectations:
5. Show my work. I show or tell how I arrived at my answer so someone else can understand my thinking.
6. Use labels. I use labels to show what numbers mean.

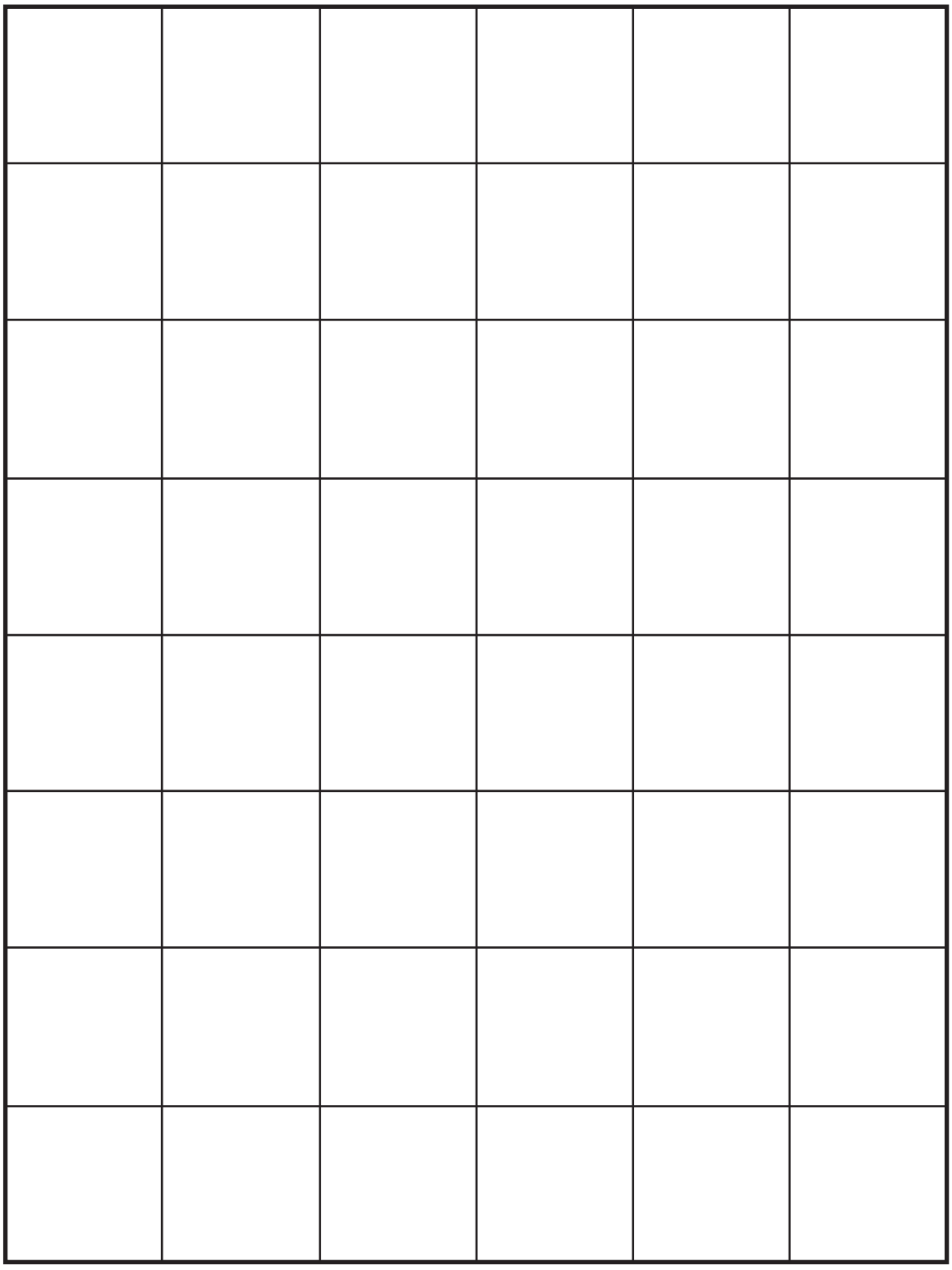


Rewrite Linda's work with your suggested changes.

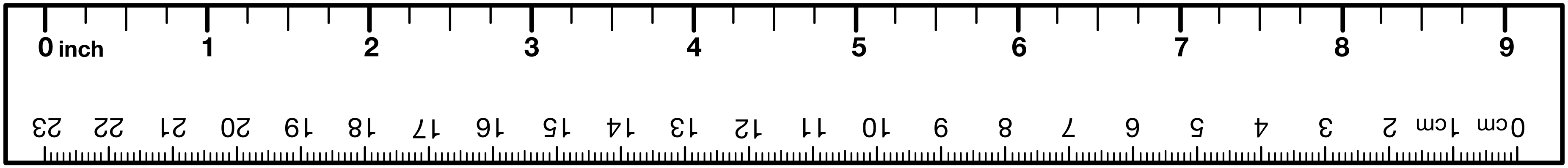
5. On the way home, they stopped in the grocery store. Ming went to the deli counter to buy lunch meat. He took a number from the counter which gave his turn in line. The girl behind the counter was waiting on Number 54. After Number 54, nine more people needed to be served before it was Ming's turn. What number did Ming have?

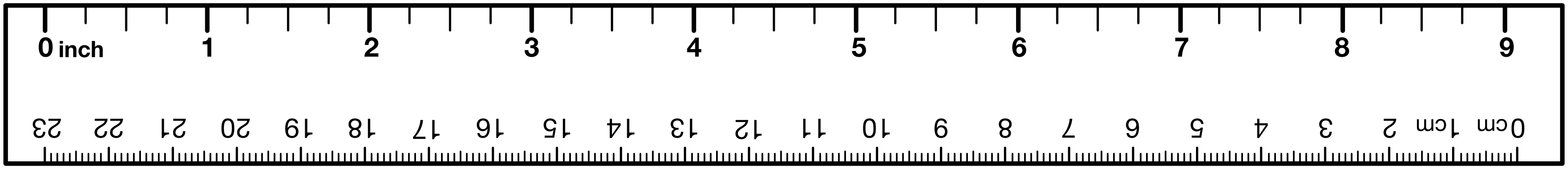
6. When Ming got home, he and his grandmother played a basketball game on the computer. His grandmother won the game! Her team scored 17 more points than Ming's team. If Ming's team scored 74 points, how many points did his grandmother's team score?

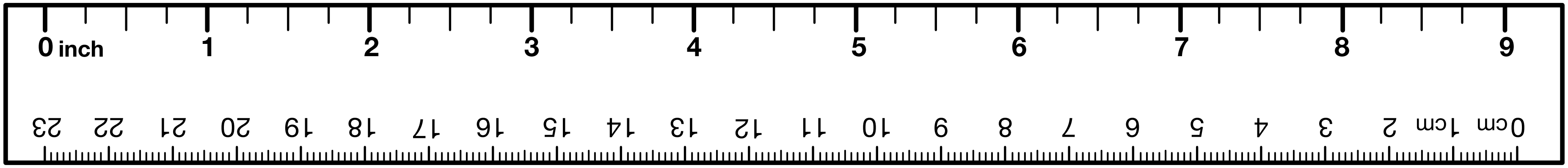
Square-Inch Grid Paper

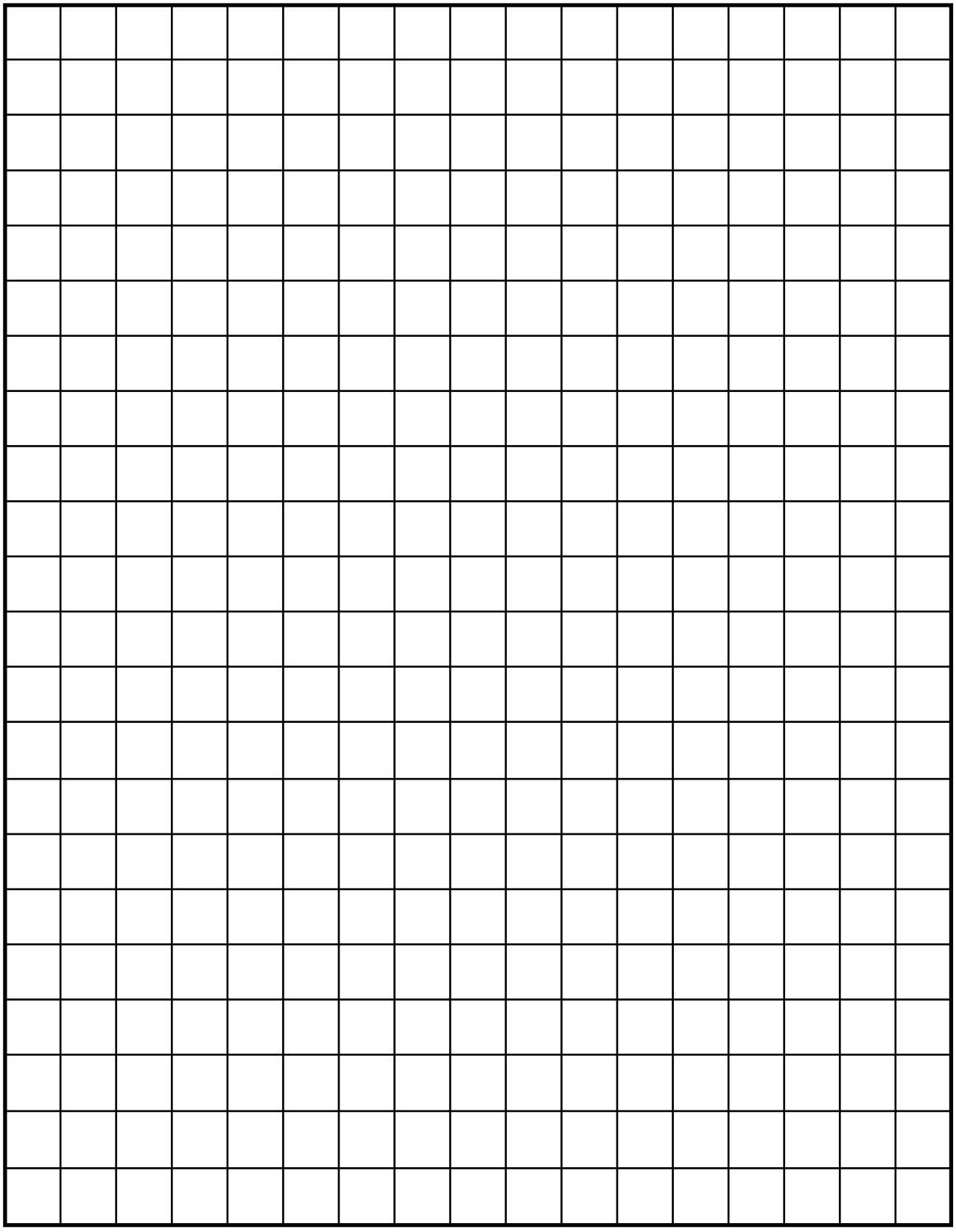


Centimeter and Inch Ruler









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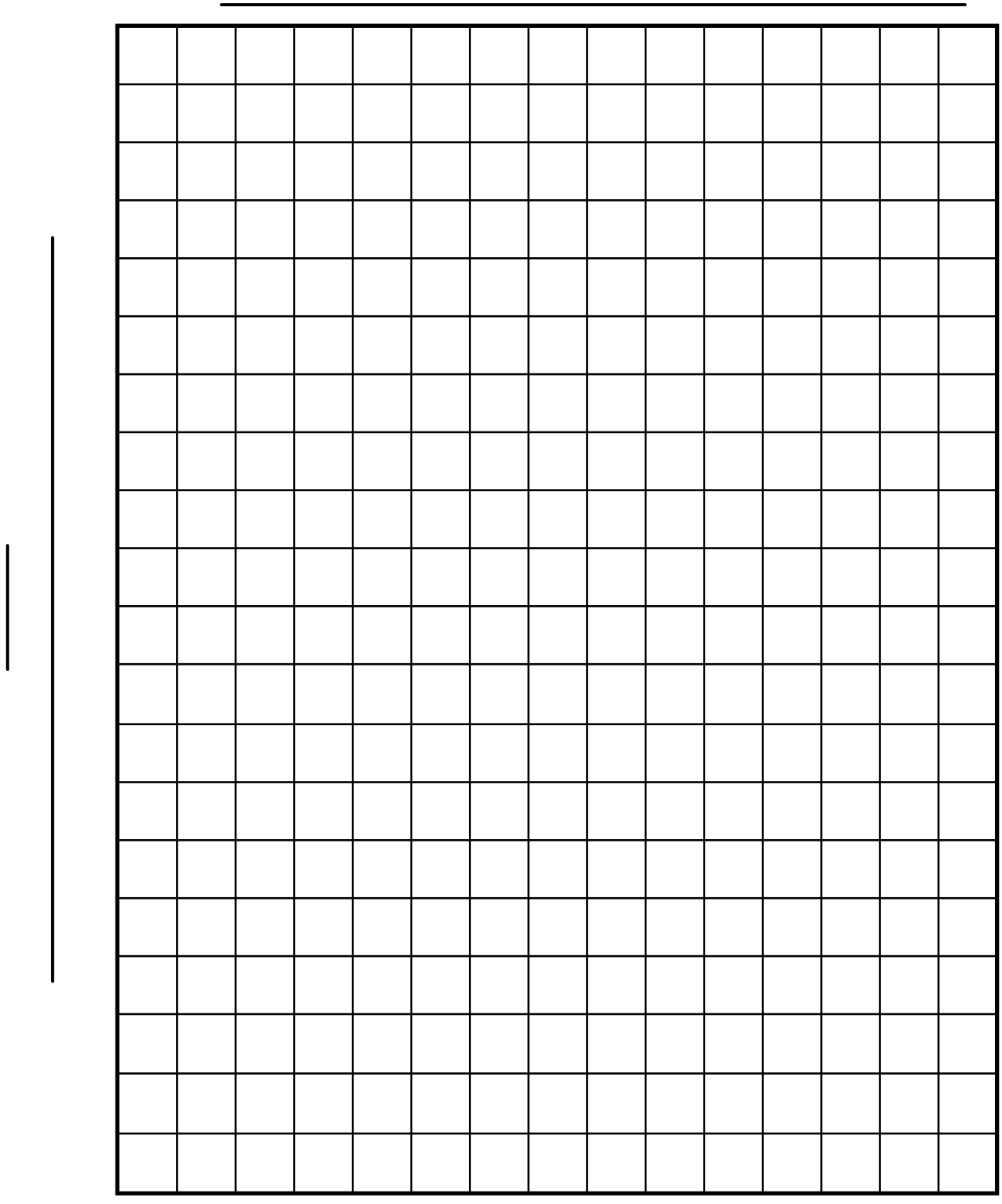


Name _____ Date _____

Math Practices 1 and 5
Feedback Box

	Yes . . .	Yes, but . . .	No, but . . .	No . . .
MPE1. Know the problem. I read the problem carefully. I know the questions to answer and what information is important.				
MPE5. Show my work. I show or tell how I arrived at my answer so someone else can understand my thinking.				

Name _____ Date _____

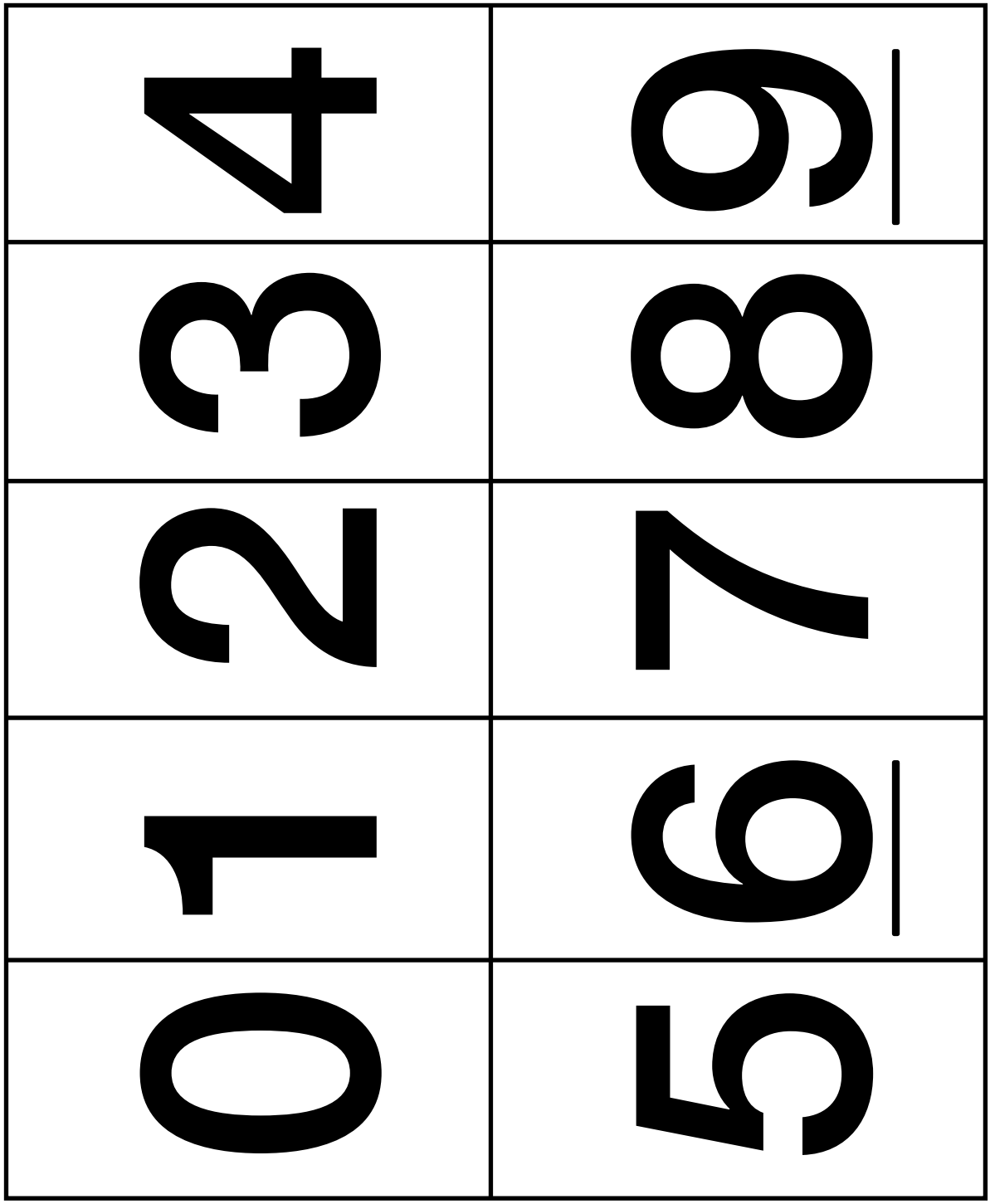
Perimeter vs. Length Lab Feedback Box

	Expectation	Check In	Comments
Find the perimeter of rectangles (runways) by counting, adding, and using a pattern. [Table in Q# 4]	E6		
Make a point graph. [Graph in Q# 6]	E1		
• Title the graph.			
• Label the axes with the variables.			
• Scale the axes appropriately.			
Read a table or (point) graph to find information about a data set. [Q# 9–12]	E2		
Make a generalization for finding the perimeter of rectangles (runways). [Q# 14]	E4		

	Yes . . .	Yes, but . . .	No, but . . .	No . . .
MPE1. Know the problem. I read the problem carefully. I know the questions to answer and what information is important. [Q# 14]				
MPE5. Show my work. I show or tell how I arrived at my answer so someone else can understand my thinking. [Q# 14]				

Name _____ Date _____

Digit Cards 0–9



Name _____ Date _____

Helipads for Antopolis Check-In: Q# 5
Feedback Box

	Expectation	Check In	Comments
Recognize geometric relationships involving the area and perimeter of rectangles. [Q# 5B]	E4		
Make a shape with a given perimeter. [Q# 5A]	E5		
Find the perimeter of rectangles. [Q# 5A]	E6		
Find the area of rectangles by counting. [Q# 5A]	E7		

	Yes . . .	Yes, but . . .	No, but . . .	No. . .
MPE4. Check my calculations. If I make mistakes, I correct them. [Q# 5B]				
MPE5. Show my work. I show or tell how I arrived at my answer so someone else can understand my thinking. [Q# 5B]				
MPE6. Use labels. I use labels to show what numbers mean. [Q# 5B]				