

Cover Page of Exam

**Mathematics Assessment  
Collaborative**  
Grade Three  
Performance Assessment  
Spring 2003

District's Student ID #

\_\_\_\_\_

(Option: District May Use a Label Here)

To be completed by official scorer

MAC ID # \_\_\_\_\_

	Score	Score Chk
<b>Task 1</b> Even and Odd (5)	_____	_____
<b>Task 2</b> Addition Trains (5)	_____	_____
<b>Task 3</b> Vending Machine(10)	_____	_____
<b>Task 4</b> Cherie's Shapes (10)	_____	_____
<b>Task 5</b> Patchwork Quilt (10)	_____	_____
<b>Total (40)</b>	_____	_____

## Even and Odd Numbers

This problem gives you the chance to:

- solve problems using even and odd numbers

Using only even numbers, Stephen has already made the number 8 in two different ways.



$$8 = 2 + 2 + 4 \quad \text{and} \quad 8 = 4 + 2 + 2$$

1. Show other ways Stephen can make the number 8. He can use only addition. He can use only **even** numbers.

$8 = \underline{\hspace{2cm}}$

$8 = \underline{\hspace{2cm}}$

$8 = \underline{\hspace{2cm}}$

$8 = \underline{\hspace{2cm}}$

2. Show how Rod can make the number 15. He can use only addition. He can use only **odd** numbers.



$15 = \underline{\hspace{2cm}}$

$15 = \underline{\hspace{2cm}}$

$15 = \underline{\hspace{2cm}}$

$15 = \underline{\hspace{2cm}}$

Explain why Rod needs to add more than two odd numbers to get an odd number answer.

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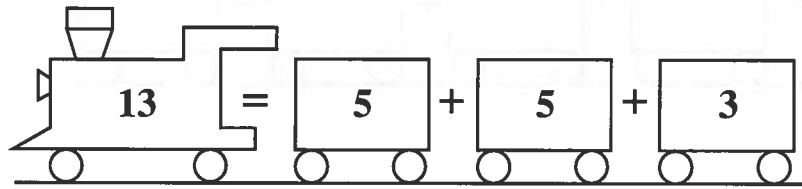
# Addition Trains

This problem gives you the chance to:

- find the boxcar numbers that match the engine numbers

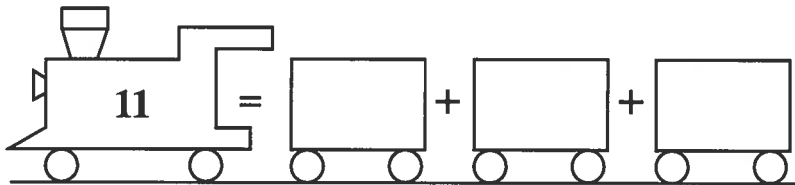
Maria is making number trains. Each train has an engine and some boxcars. Each engine and each boxcar has a number.

Each engine can pull a row of boxcars only when the numbers on the boxcars add up to the number on the engine. For example, engine number 13 can pull boxcars with numbers 5 and 5 and 3, because  $13 = 5 + 5 + 3$ .

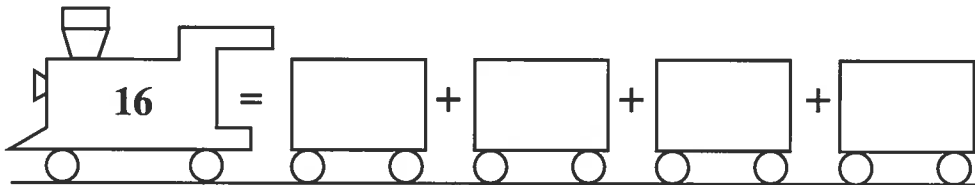


Put numbers on the boxcars so that the engines can pull them. **The number put on each boxcar must be either 3 or 5.**

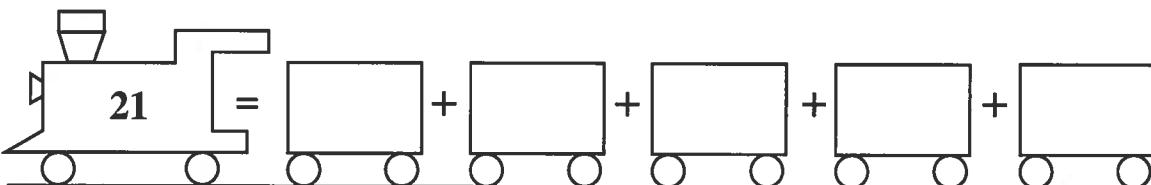
1.



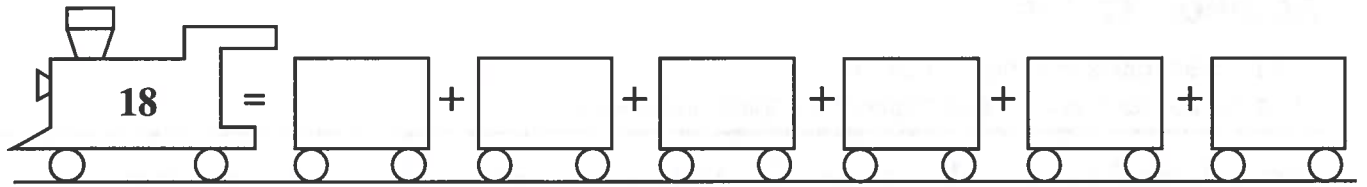
2.



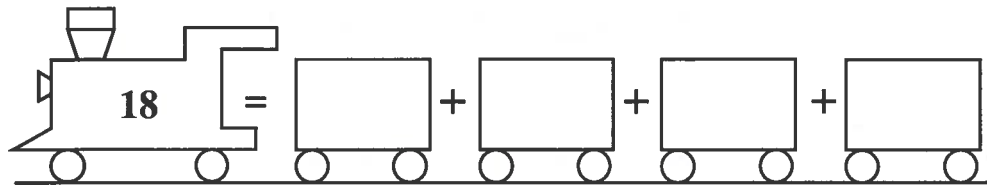
3.



4.



Find another way of filling in the boxcars for engine number 18 shown below.  
Use only the numbers 3 and 5.

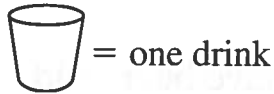


# Vending Machines

This problem gives you the chance to:

- interpret a pictograph and add information to it

A vending machine sells tea, coffee, cola, apple juice, milk, and orange juice. The chart below shows the number of drinks that have been sold in one hour.



Number of drinks sold

<b>tea</b>	<b>coffee</b>	<b>cola</b>	<b>apple juice</b>	<b>milk</b>	<b>orange juice</b>

- How many cola drinks have been sold? \_\_\_\_\_
- Which kind of drink has sold the most? \_\_\_\_\_
- How many more cups of orange juice were sold than cups of coffee? \_\_\_\_\_
- How many drinks were sold in all?  
Show how you figured this out. \_\_\_\_\_

5. On the chart, show that one more cup of apple juice has been sold.
6. Another vending machine sells chips. During one hour the machine sells:
- |                           |                             |
|---------------------------|-----------------------------|
| 10 bags of classic flavor | 4 bags of corn flavor       |
| 7 bags of BBQ flavor      | 3 bags of onion flavor      |
| 8 bags of salsa flavor    | 5 bags of sour cream flavor |

Complete the chart below to show how many bags of chips have been sold during one hour.

Use these symbols to show how many bags of chips have been sold in one hour:

= 2 bags of chips sold     
  = 1 bag of chips sold

<b>Number of bags of chips sold</b>	<span style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></span>				
	<span style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></span>	<span style="border: 1px solid black; border-radius: 50%; display: inline-block; width: 20px; height: 20px;"></span>			
	<span style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></span>			
	<span style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></span>			
	<span style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></span>	<span style="border: 1px solid black; display: inline-block; width: 20px; height: 20px;"></span>			
	<b>classic</b>	<b>BBQ</b>	<b>salsa</b>	<b>corn</b>	<b>onion</b>
					<b>sour cream</b>

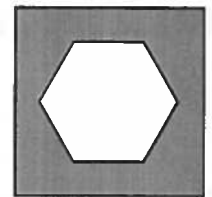
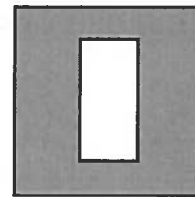
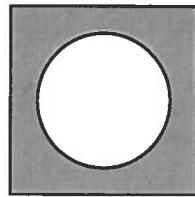
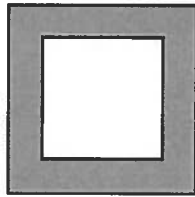
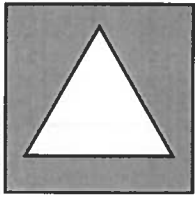
# Cherie's Shapes

This problem gives you the chance to:

- name some simple geometric shapes
- use divisibility to plan possible repeating patterns

Cherie is drawing shapes around the walls of her baby brother's bedroom. Her set of shapes is shown below.

1. Name the shape in the center of each square card.



\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

There is space for 30 shapes along each wall.

Cherie has decided to draw this pattern on the first wall:



After she has drawn the pattern twice, this is how it looks:



2. How many times will Cherie be able to draw her pattern of five shapes on the wall?

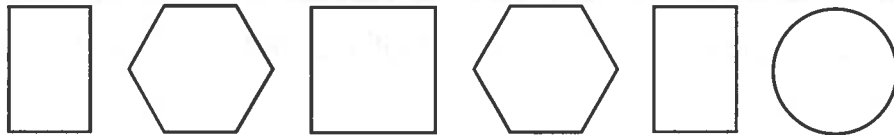
\_\_\_\_\_

Explain how you figured this out.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. Cherie has designed a different pattern for the second wall.

The new pattern is shown below.



How many times will Cherie be able to draw this pattern on the wall?  
Remember that along each wall, she can draw 30 shapes.

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Explain how you figured this out.

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4. Using Cherie's shapes, design a different pattern for the third wall of the bedroom. Your pattern should use at least three different shapes. Remember that along each wall, there is room for 30 shapes.

Draw your pattern here.

How many times will Cherie need to draw your pattern along the wall?

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## Patchwork Quilt

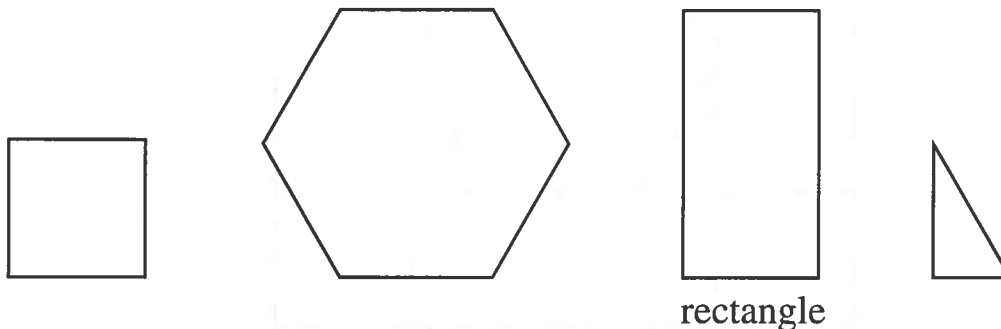
This problem gives you the chance to:

- work with properties of simple shapes
  - mark lines of symmetry on a quilt pattern
- 

Joella's class is making a patchwork quilt.

Each student is cutting out shapes.

The shapes they are using are shown below.



1. Anna is cutting out a shape that has 4 equal sides and 4 right angles.

What is the name of the shape? \_\_\_\_\_

2. Zach is cutting out a shape that has 3 sides.

What is the name of the shape? \_\_\_\_\_

3. Sidney is cutting out a shape that has 6 sides.

What is the name of the shape? \_\_\_\_\_

4. Lucy is cutting out a rectangle.

List three things that describe a rectangle.

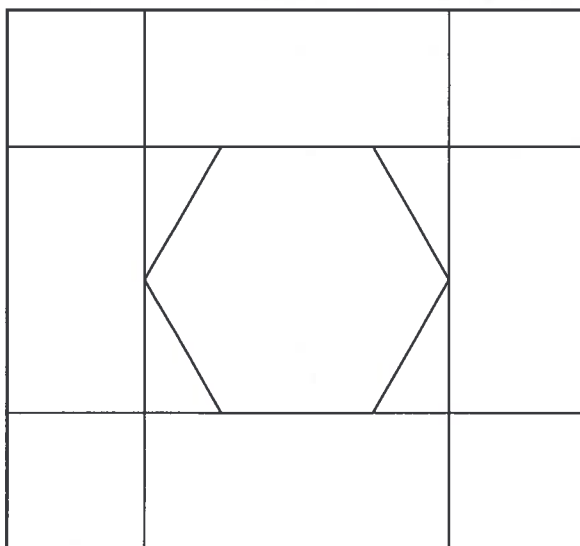
(a) \_\_\_\_\_

(b) \_\_\_\_\_

(c) \_\_\_\_\_

5. Here is the design for one part of the quilt.

Draw two lines of symmetry on the design.



6. In the square below, draw your own quilt design that has two lines of symmetry.

