

M3N3. Students will further develop their understanding of multiplication of whole numbers and develop the ability to apply it in problem solving.

a. Describe the relationship between addition and multiplication, i.e. multiplication is defined as repeated addition.

b. Know the multiplication facts with understanding and fluency to 10×10 .

c. Use arrays and area models to develop understanding of the distributive property and to determine partial products for multiplication of 2- or 3-digit numbers by a 1-digit number.

MULTIPLICATION FACTS

Easy to Remember

Hard to Remember

M3N3 Students will solve multiplication problems.

:: Use mental math

:: Use arrays to show the distributive property

:: Use the distributive property to solve problems

E.Q.

How can I use arrays to represent multiplication problems?

How can I use the distributive property to solve tough problems?

EQ: How can I represent multiplication problems with arrays? How can I use the distributive property to solve tough problems?

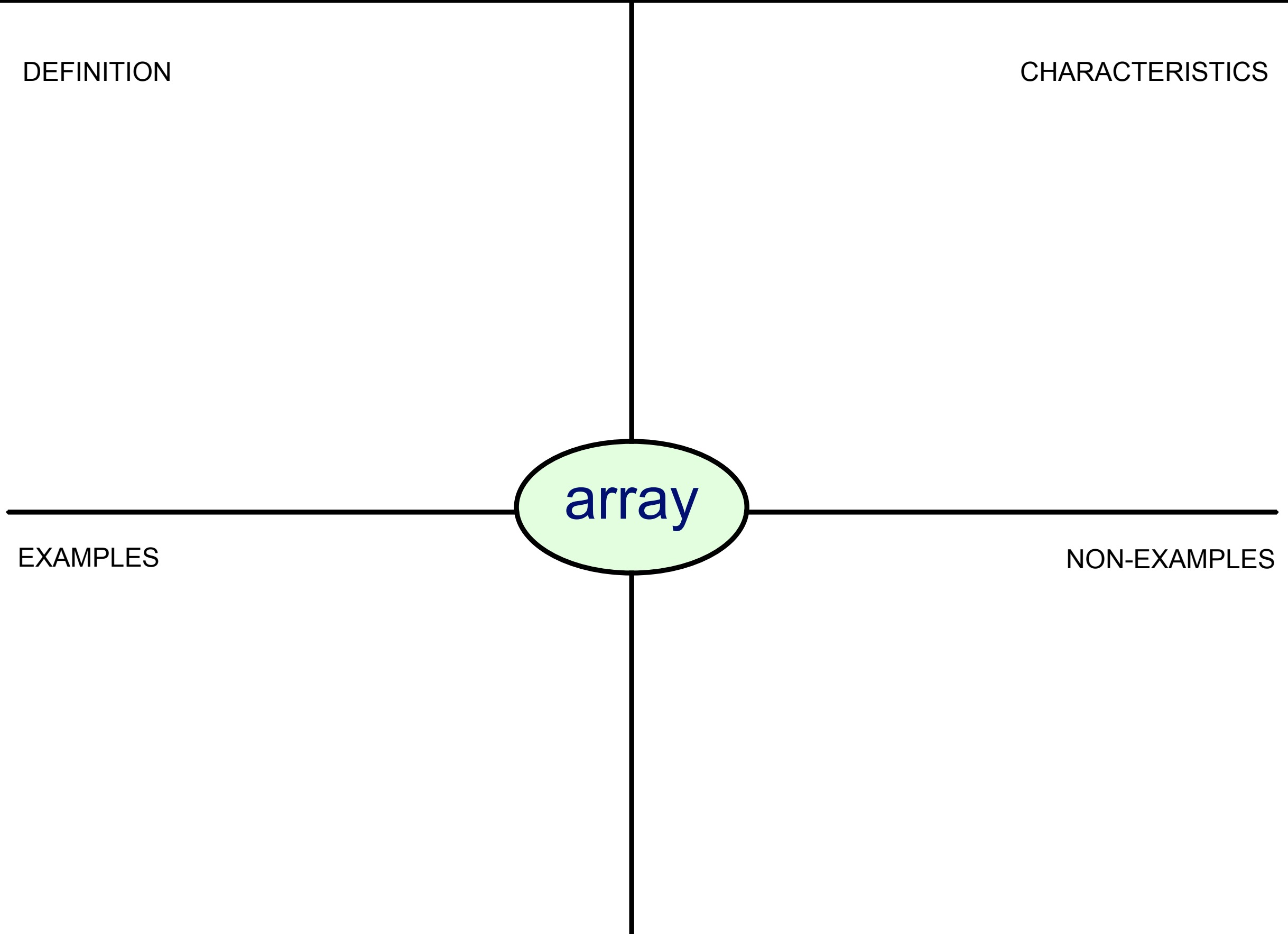
DEFINITION

CHARACTERISTICS

array

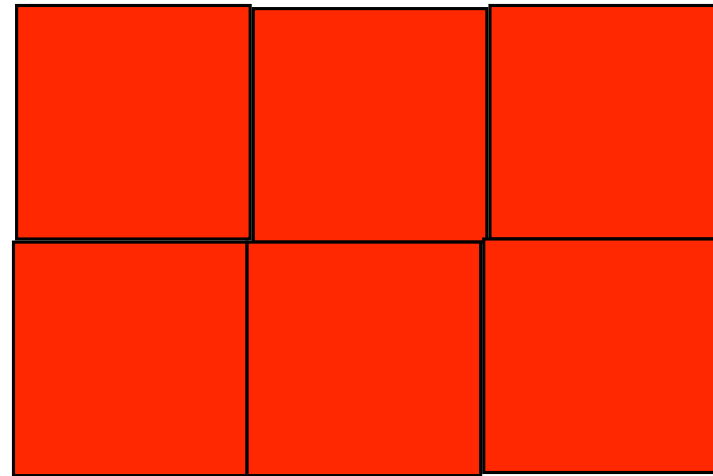
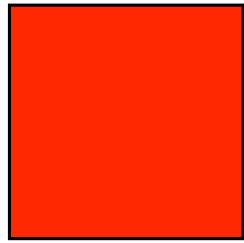
EXAMPLES

NON-EXAMPLES

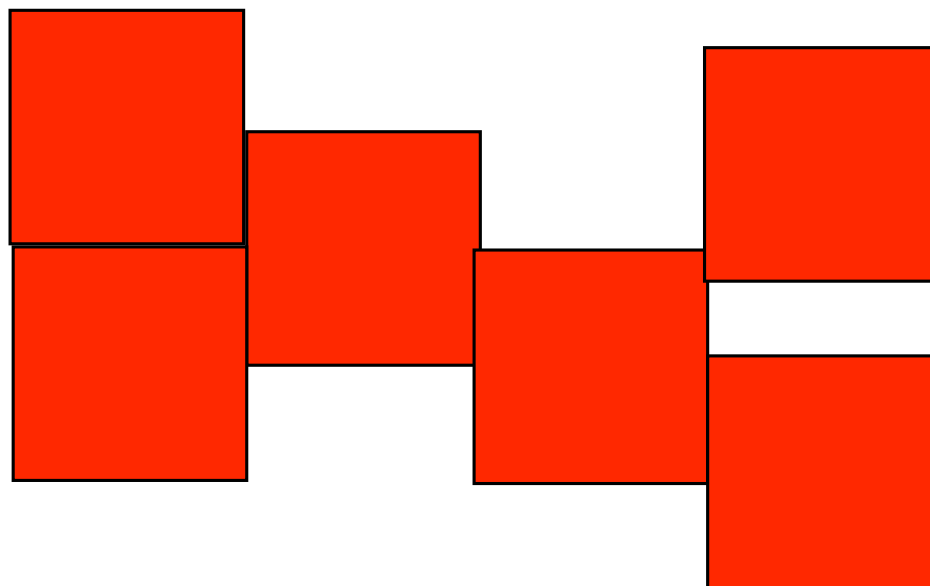


EQ: How can I represent multiplication problems with arrays? How can I use the distributive property to solve tough problems?

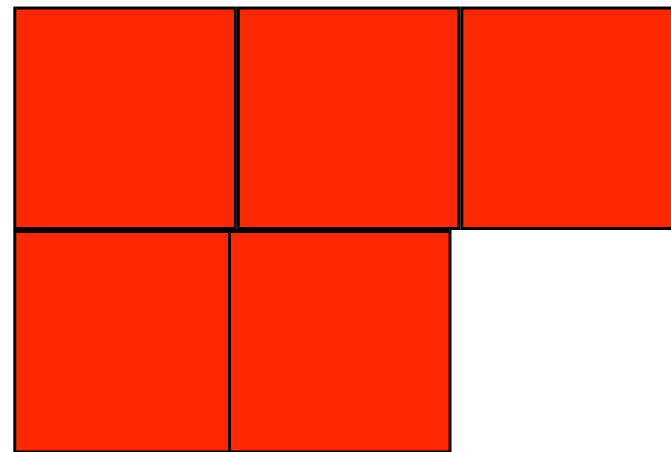
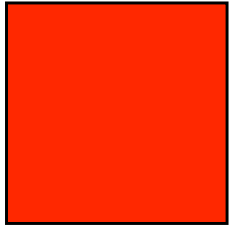
ARRAY



NOT an ARRAY

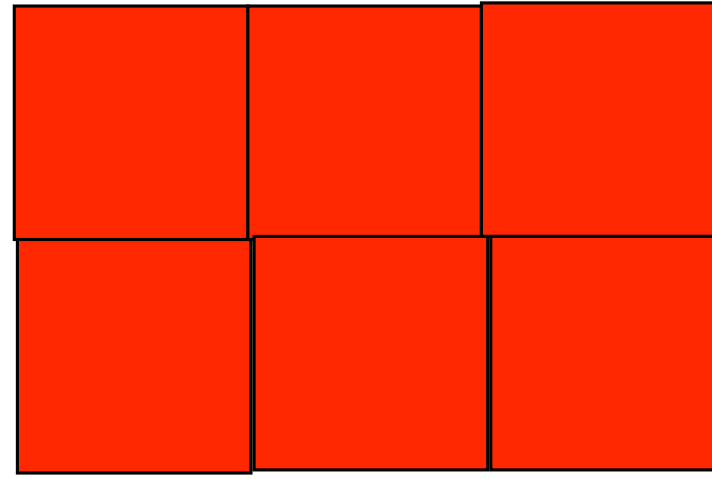
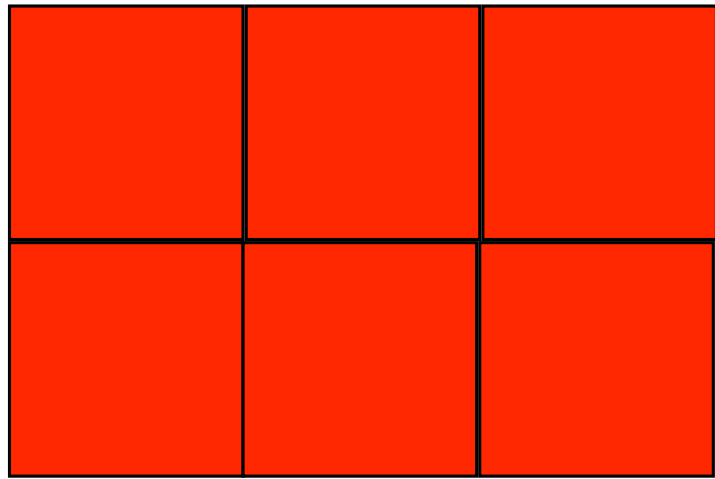


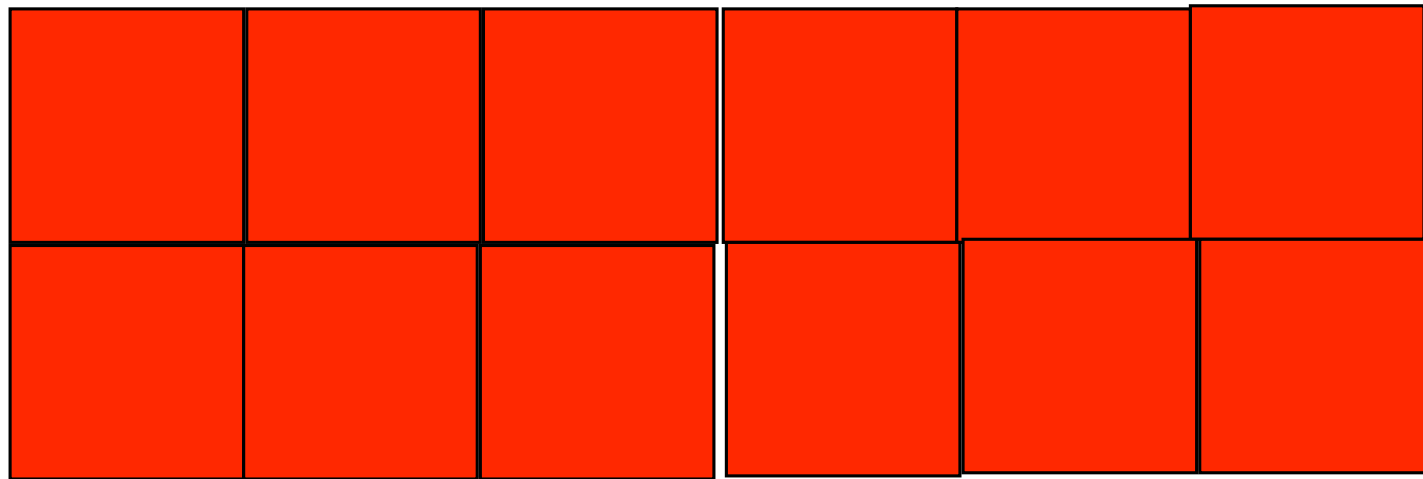
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Finish definition.

EQ: How can I represent multiplication problems with arrays? How can I use the distributive property to solve tough problems?





$$(2 \times 3) + (2 \times 3) = 12$$

$$2 \times 6 = 12$$

WORK TIME:

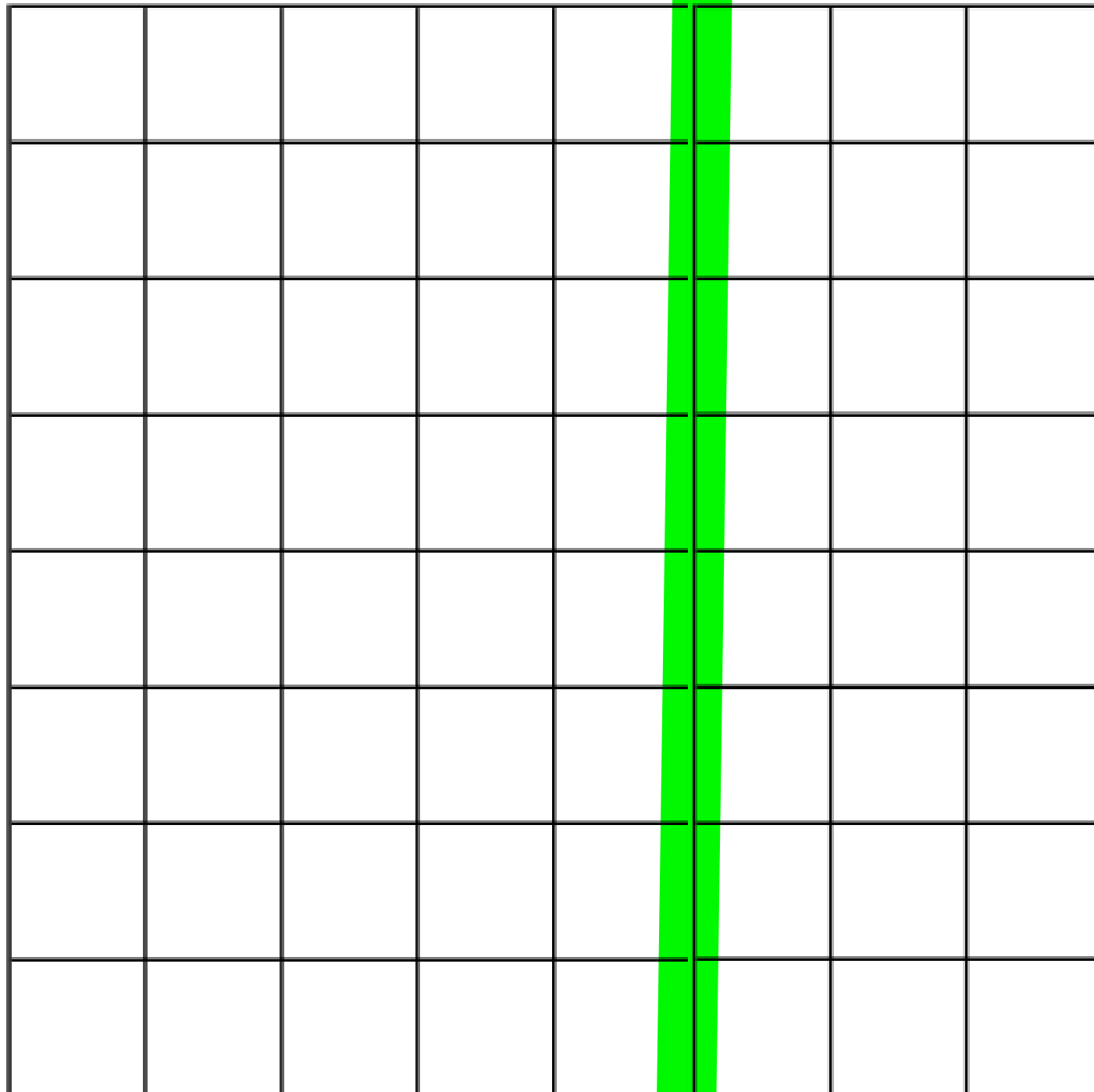
- Spread out your arrays.
-
- Match up the smaller arrays to make one larger array.
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- On a post-it note, write two equations. One that shows the parts, and one that shows the whole big array.
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- Use a separate post-it note for each array.

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DISTRIBUTIVE
PROPERTY

(split up)

worksheet

1. Figure out the multiplication problem to solve.
2. Use the *distributive property* to split up the array.
3. Color in the parts and write the product in each.

Which is easier:

Memorizing $9 \times 7 = 63$

or splitting up the array?

We do this because:

:: $9 \times 7 = 63$

:: solve **BIGGER** problems

E.Q.

How can I use arrays to represent multiplication problems?

How can I use the distributive property to solve tough problems?

TICKET OUT THE DOOR:

Array in your math journal. Use the distributive property to solve the problem. Write two equations to represent the array.