Math Homework

Grade 3

Module # 1

Name: _____

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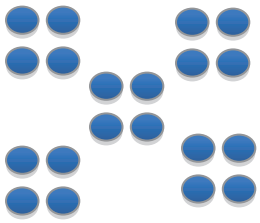
Name _____ Date _____

1. Fill in the blanks to make true statements.

a. 4 groups of five = _____

4 fives = _____

4 × 5 = _____



b. 5 groups of four = _____

5 fours = _____

5 × 4 = _____

c. 6 + 6 + 6 = _____

_____ groups of six = _____

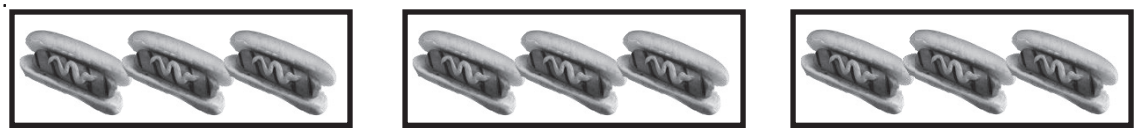
3 × _____ = _____

d. 3 + ____ + ____ + ____ + ____ + ____ = _____

6 groups of _____ = _____

6 × _____ = _____

2. The picture below shows 3 groups of hot dogs. Does the picture below show 3 × 3? Explain why or why not.



3. Draw a picture to show 4 × 2 = 8.

4. Circle the markers below to show 3 groups of 6. Write addition and multiplication sentences to represent the problem.

Name _____ Date _____

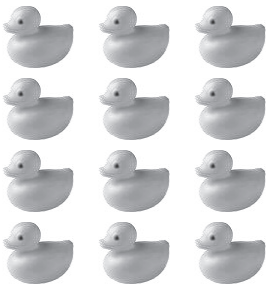
Use the arrays below to answer each set of questions.

1.

a. How many rows of erasers are there? _____

b. How many erasers are there in each row? _____

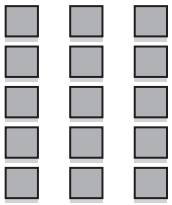
2.



a. What is the number of rows? _____

b. What is the number of objects in each row? _____

3.



a. There are 3 squares in each row. How many squares are in 5 rows? _____

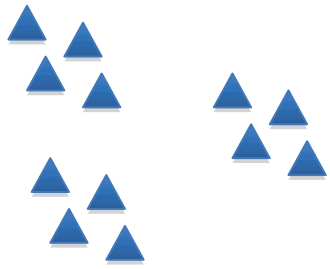
b. Write a multiplication fact to describe the array. _____

4.

a. There are 6 rows of stars. How many stars are in each row? _____

b. Write a multiplication fact to describe the array. _____

5. The triangles below show 3 groups of 4.



a. Redraw the triangles as an array that shows 3 rows of 4.

b. Compare the drawing to your array. How are they the same? How are they different?

6. Roger has a collection of stamps. He arranges the stamps into 5 rows of 4. Draw an array to represent Roger's stamps. Then write a multiplication sentence to describe the array.

7. Kimberly arranges her 18 markers in an array. Draw an array that Kimberly might make. Then write a multiplication sentence to match your array.

Name _____ Date _____

Solve problems 1–4 using the pictures for each problem.

1. There are 5 pineapples in each group. How many pineapples are there in 5 groups?

   a. Number of groups: _____ Size of each group: _____

   b. 5 × 5 = _____

   c. There are _____ pineapples altogether.

2. There are _____ oranges in each basket. How many oranges are there in 6 baskets?

   a. Number of groups: _____ Size of each group: _____

   b. 6 × _____ = _____

   c. There are _____ oranges altogether.

3. There are 4 bananas in each row. How many bananas in _____ rows?

a. Number of rows: _____ Size of each row: _____

b. _____ × 4 = _____

c. There are _____ bananas altogether.

4. There are _____ peppers in each row. How many peppers are there in 6 rows?

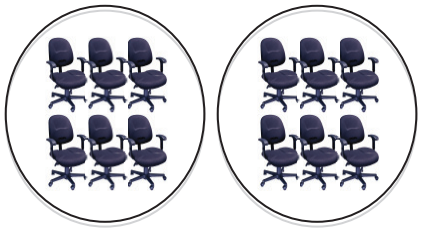
a. Number of rows: _____ Size of each row: _____

b. _____ × _____ = _____

c. There are _____ peppers altogether.

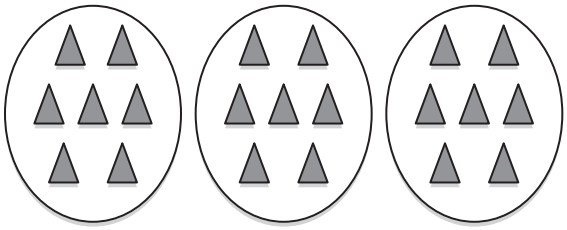
5. Draw an array using factors 4 and 2. Then show a number bond where each part represents the amount in one row.

Name _____ Date _____

1. 

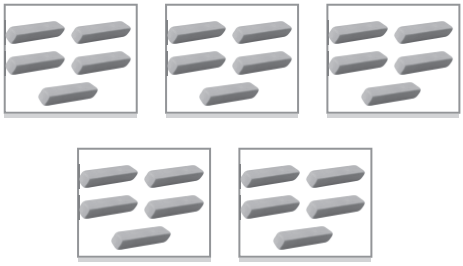
Divide 12 chairs into 2 equal groups.

There are _____ chairs in each group.

2. 

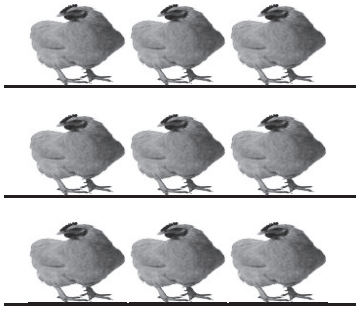
Divide 21 triangles into 3 equal groups.

There are _____ triangles in each group.

3. 

Divide 25 erasers into _____ equal groups.

There are _____ erasers in each group.

4. 

Divide _____chickens into _____ equal groups.

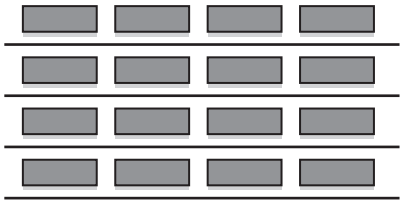
There are _____ chickens in each group.

9 ÷ 3 = _____

5. 

There are _____ buckets in each group.

12 ÷ 4 = _____

6. 

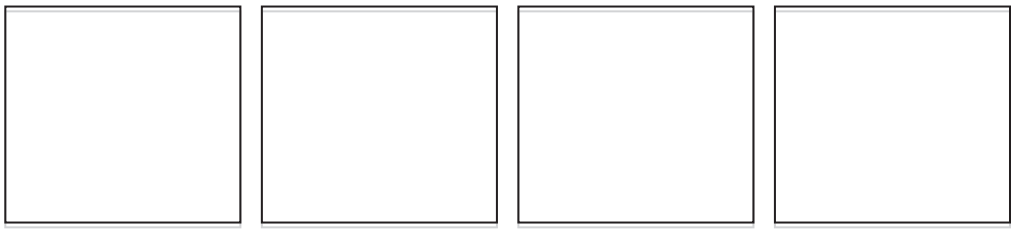
16 ÷ 4 = _____

7. Andrew has 21 keys. He puts them in 3 equal groups. How many keys are in each group?

There are _____ keys in each group.

21 ÷ 3 = _____

8. Mr. Doyle has 20 pencils. He divides them equally between 4 tables. Draw the pencils on each table.



There are _____ pencils on each table.

20 ÷ _____ = _____

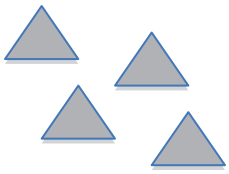
9. Jenna has markers. The picture shows how she placed them on her desk. Write a division sentence to represent how she equally grouped her markers.

There are _____ markers in each row.

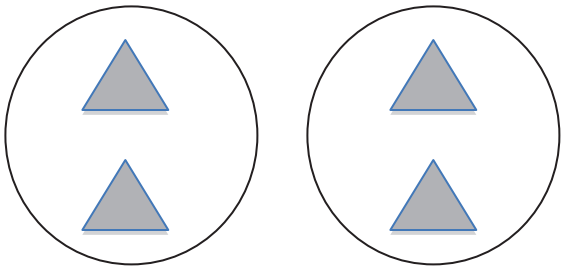
_____ ÷ _____ = _____

Name _____ Date _____

1.



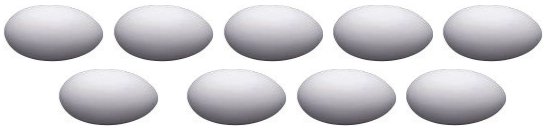
Divide 4 triangles into groups of 2.



There are _____ groups of 2 triangles.

4 ÷ 2 = 2

2.



Divide 9 eggs into groups of 3.

There are _____ groups.

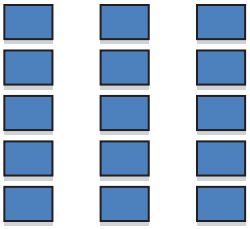
9 ÷ 3 = _____

3.

Divide 12 buckets of paint into groups of 3.

12 ÷ 3 = _____

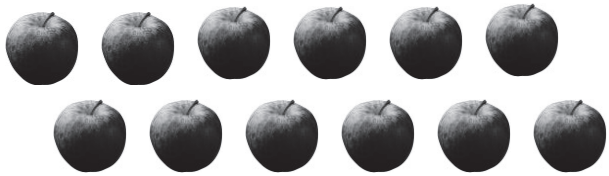
4.



Group the squares to show 15 ÷ 5 = _____ where the unknown represents the number of groups.

How many groups are there? _____

5. Daniel has 12 apples. He puts 6 apples in each bag. Circle the apples to find the number of bags Daniel makes.



a. Write a division sentence where the answer represents the number of Daniel's bags.

b. Draw a number bond to show Daniel's apples.

6. Jacob is drawing cats. He draws 4 legs on each cat, and a total of 24 legs.
   a. Use a count-by to find the number of cats Jacob draws. Make a drawing to match your counting.

b. Write a division sentence to represent the problem.

Name _____ Date _____

1. Mr. Hannigan puts 12 pencils into boxes. Each box holds 4 pencils. Circle groups of 4 to show the pencils in each box.

Mr. Hannigan needs _____ boxes.

_____ × 4 = 12

12 ÷ 4 = _____

2. Mr. Hannigan places 12 pencils into 3 equal groups. Draw to show how many pencils are in each group.

There are _____ pencils in each group.

3 × _____ = 12

12 ÷ 3 = _____

3. Use an array to model Problem 1.

a) _____ × 4 = 12

12 ÷ 4 = _____

The number in the blanks represents:

_____.

b) 3 × _____ = 12

12 ÷ 3 = _____

The number in the blanks represents:

_____.

4. Judy washes 24 dishes. She then dries and stacks the dishes equally into 4 piles. How many dishes are in each pile?

   24 ÷ 4 = _____

   4 × _____ = 24

   What is the meaning of the unknown factor and quotient? _____

5. Nate solves the problem _____ × 5 = 15 by writing and solving 15 ÷ 5 = ____. Explain why Nate's method works.

6. The blanks in Problem 5 represent the number of groups. Draw an array to represent the number sentences.

Name _____ Date _____

1. a. Count by 2 seven times.

_____, _____,_____,_____,_____,_____,_____

b. Draw an array that matches your count-by.

c. Write a multiplication sentence that represents the total number of objects in your array.

_____ × _____ = _____

2. a. Count by 7 two times.

_____, _____

b. Draw an array that matches your count-by.

c. Write a multiplication sentence that represents the total number of objects in your array.

_____ × _____ = _____

3. a. Compare your work in Problems 1 and 2. Turn your paper as you study the arrays to look at them in different ways.

b. Why are the factors in your multiplication sentences in a different order?

4. Count by the unit (the number in word form) the number of times indicated. Write the multiplication sentence that matches your count-by. The first one is done for you.

a. 2 twos: 2 × 2 = 4

b. 3 twos: _____

c. 2 threes: _____

d. 2 fours: _____

e. 4 twos: _____

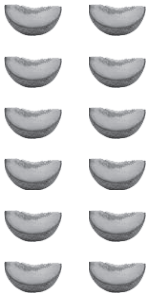
f. 5 twos: _____

g. 2 fives: _____

g. 6 twos: _____

h. 2 sixes: _____

5. Write and solve a different multiplication sentence to describe each array.



_____

_____

6. Angel writes 2 × 8 = 8 × 2 in his notebook. Do you agree or disagree? Draw arrays to help explain your thinking.

7. Find the missing factor to make each number sentence true.

2 × 6 = 6 × _____	_____ × 2 = 2 × 7	9 × 2 = _____ × 9	2 × _____ = 10 × 2

8. Tamia buys 2 bags of candy. Each bag has 7 pieces of candy in it.
   a. Draw an array to show how many pieces of candy Tamia has altogether.

   b. Write and solve a multiplication sentence to describe the array.

   c. Use the commutative property to write and solve a different multiplication sentence for the array.

Name _____ Date _____

1. a. Count by 3 six times.

____, ____,____,____,____,____

b. Draw an array that matches your count-by.

2. a. Count by 6 three times.

_____, _____, _____

b. Draw an array that matches your count-by.

2. Write multiplication expressions below to represent your arrays in Problems 1 and 2. Use the commutative property to make the equation true.

_____ ×_____ = _____ ×_____

Problem 1 Problem 2

3. Count by the unit (the number in word form) the number of times indicated. Write the multiplication sentence that matches your count by. The first one is done for you.

a. 5 threes: 5 × 3 = 15
b. 3 fives: _____
c. 6 threes: _____
d. 3 sixes: _____
e. 7 threes: _____
f. 3 sevens: _____
g. 8 threes: _____
h. 3 nines: _____
I. 10 threes: _____

4. Find the unknowns that make the number sentences true. Then draw a line between related facts.

a. 3 + 3 + 3 + 3 + 3 + 3 = _____
b. 3 × 5 = _____
c. 8 threes + 1 three = _____
d. 3 × 9 = _____
e. _____ = 6 × 3
f. 15 = 5 × _____

5. Fernando puts 3 pictures on each page of his photo album. He puts pictures on 8 pages.
   a. Use circles to draw an array that represents the total number of pictures in Fernando's photo album.

   b. Use your array to write and solve a multiplication sentence to find Fernando's total number of pictures.

   c. Fernando adds 2 more pages to his book. He puts 3 pictures on each new page. Draw x's to show the new pictures on the array in Part A.

   d. Write and solve a multiplication sentence to find the new total number of pictures in Fernando's album.

6. Ivania recycles. She gets 3 cents for every can she recycles.
   a. How much money does Ivania make if she recycles 4 cans?

   _____ × _____ = _____ cents

   b. How much money does she make if she recycles 7 cans?

   _____ × _____ = _____ cents

Name _____ Date _____

1. Mrs. Stern roasts cloves of garlic. She places 10 rows of two cloves on a baking sheet.

   Write a multiplication sentence to describe the number of cloves Mrs. Stern bakes.

   _____ × _____ = _____

2. When the garlic is roasted, Mrs. Stern uses some for a recipe, leaving 2 rows of two garlic cloves on the pan.

   a. Complete the number sentence below to show how many garlic cloves she uses.

   _____ twos – _____ twos = _____twos

   b. 20 – _____ = 16

   c. Write a multiplication sentence to describe the number of garlic cloves she uses.

   _____ × 2 = _____

Name _____ Date _____

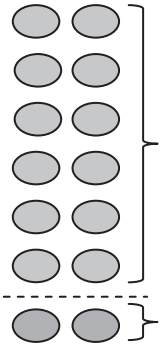
1. Dan organizes his star stickers into 3 rows of 4. Irene adds 2 more rows of stickers. Complete the number sentences to describe the total number of stickers in the array.

a. (4 + 4 + 4) + (4 + 4) = _____

b. 3 fours + _____ fours = _____ fours

c. _____ × 5 = _____

2. 7 × 2 = _____



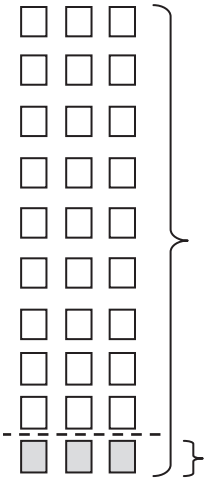
6 × 2 = ___

1 × 2 = ___

12 + 2 = _____

_____ × 2 = 14

3. 9 × 3 = _____



10 × 3 = ___

1 × 3 = ___

30 – _____= 27

_____ × 3 = 27

4. Franklin collects stickers. He organizes his stickers in 5 rows of 4 on his table.

   Draw an array that represents Franklin's stickers using an x to show each sticker.

   5 × 4 = _____

5. Franklin adds 2 more rows. Use circles to show his new stickers on the array in part 3a.

   a. Write and solve a multiplication sentence to represent the circles you added to the array.

   _____ × 4 = _____

   b. Complete the addition sentence to show how you added the totals of 2 multiplication facts to find Franklin's total number of stickers.

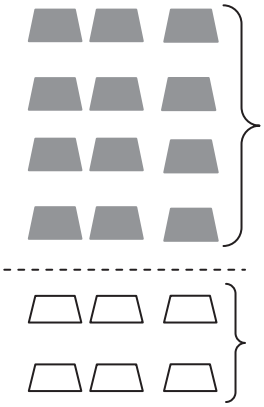
   _____ + _____ = 28

   c. Complete the unknown to show Franklin's total number of stickers.

   _____ × 4 = 28

Name _____ Date _____

1. 6 × 3 = _____



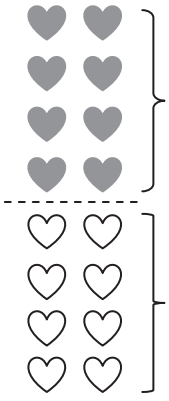
(4 × 3) = 12

(2 × 3) = _____

12 + _____ = _____

6 × 3 = _____

2. 8 × 2 = _____



(____ × 2) = _____

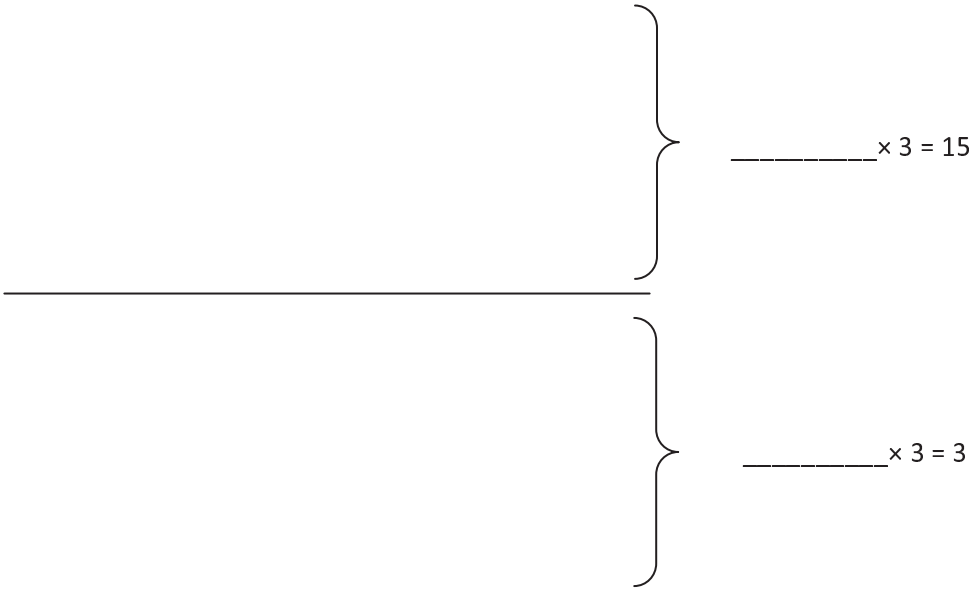
(____ × 2) = _____

(4 × 2) + (4 × 2) = _____ + _____

____ × 2 = _____

3. Adriana is organizing her books on shelves. She puts 3 books in each row.

   a. Use the multiplication sentences on the right to draw arrays to show the books on Adriana's top and bottom shelves.



   b. Adriana calculates the total number of books as shown below. Use the array you drew to help explain her calculation.

6 × 3 = 15 + 3 = 18

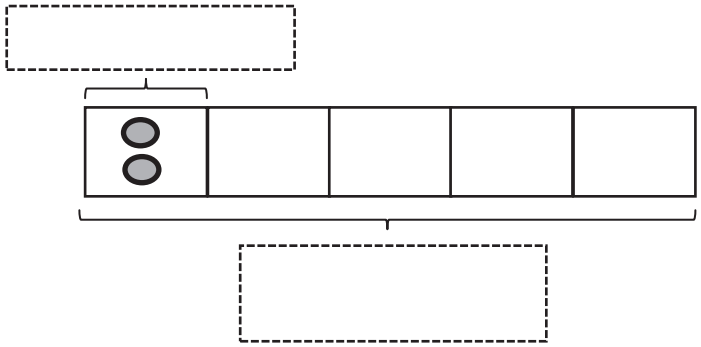
Name _____ Date _____

1. Fred has 10 pears. He puts 2 pears in each basket.

   a. Draw an array where each column represents a basket of pears.

_____ ÷ 2 = _____

   b. Redraw the pears in each basket as a unit in the tape diagram. Label the diagram with known and unknown information from the problem.



2. Ms. Meyer organizes 15 clipboards equally into 3 boxes. How many clipboards are in each box? Model the problem with both an array and a labeled tape diagram. Show each column as the number of clipboards in each box.

There are _____ clipboards in each box.

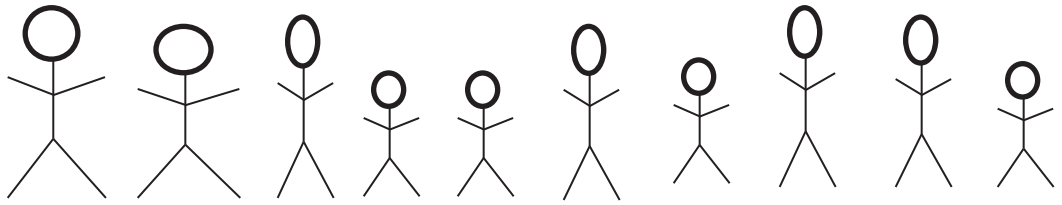
3. Sixteen action figures are arranged equally on 2 shelves. How many action figures are on each shelf? Model the problem with both an array and a labeled tape diagram. Show each column as the number of action figures on each shelf.

4. Jasmine puts 18 hats away. She puts an equal number of hats on 3 shelves. How many hats are on each shelf? Model the problem with both an array and a labeled tape diagram. Show each column as the number of hats on each shelf.

5. Corey checks out 2 books a week from the library. How many weeks will it take him to check out a total of 14 books?

Name _____ Date _____

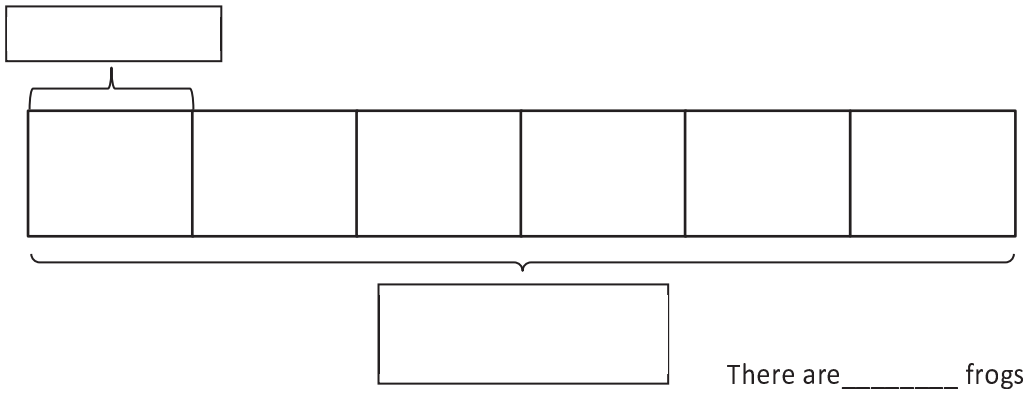
1. 10 people wait in line for the roller coaster. 2 people sit in each car. Find the total number of cars needed.



10 ÷ 2 = _____

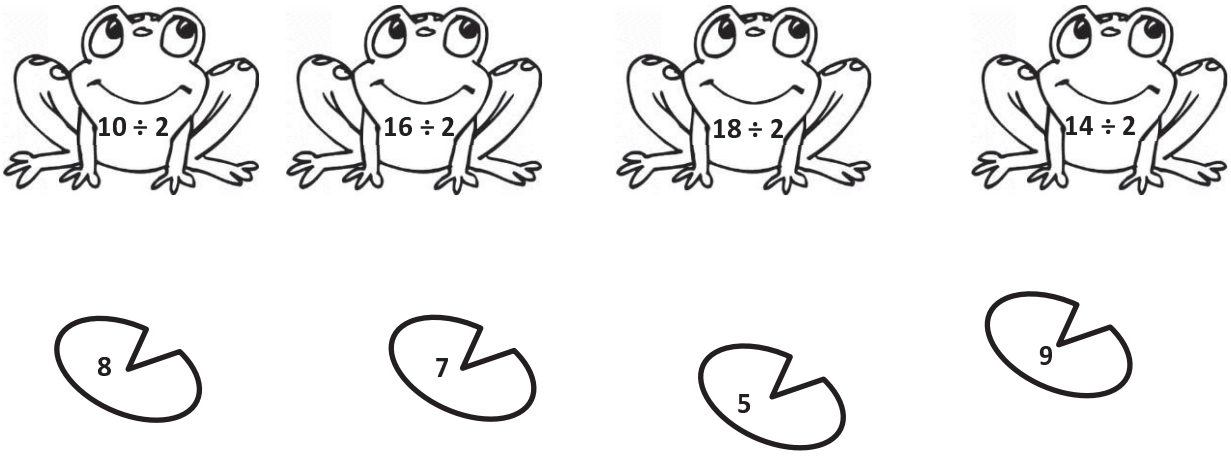
There are _____ cars needed.

2. Mr. Ramirez divides 12 frogs equally into 6 groups for students to study. How many frogs are in each group? Label known and unknown information on the tape diagram to help you solve.

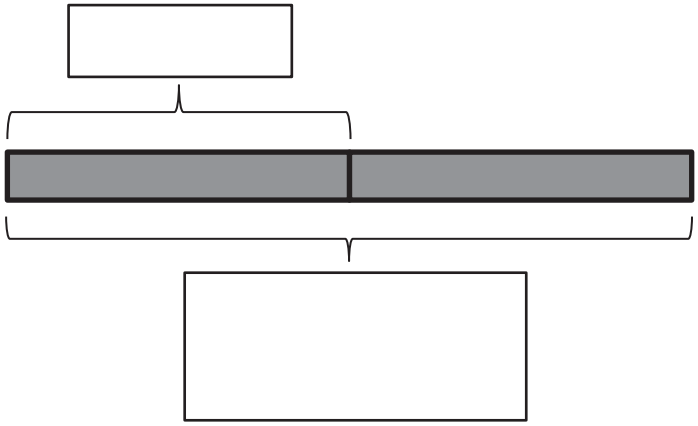


There are_____ frogs in each group.

3. Match.



4. Betsy pours 16 cups of water to equally fill 2 bottles. How many cups of water are in each bottle? Label the tape diagram to represent the problem, including the unknown.



There are _____ cups of water in each bottle.

5. An earthworm tunnels 2 cm into the ground each day. The earthworm tunnels at about the same pace every day. How many days will it take the earthworm to tunnel 14 cm?

6. Sebastian and Teshawn go to the movies. The tickets cost $16 in total. The boys share the cost equally. How much does Teshawn pay?

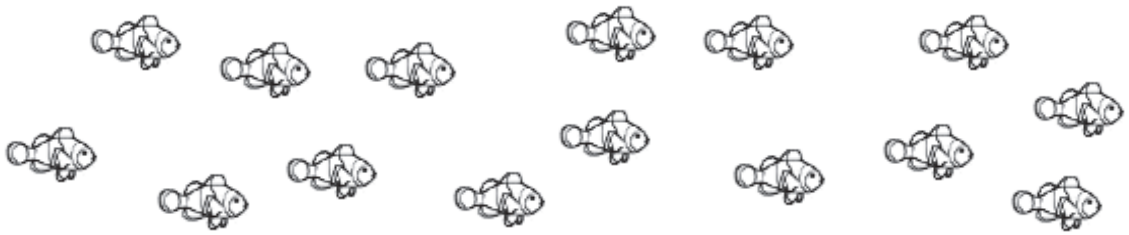
Name _____ Date _____

1. Complete the related expressions.

2 x 3 = 6 6 ÷ 3 = _____	1 x 3 = _____ 3 ÷ 3 = _____	7 x 3 = _____ _____ ÷ 3 = 7	9 x 3 =_____ ____ ÷ 3 = 9

2. Ms. Jones' pet fish are shown below. She keeps 3 fish in each tank.

   a. Circle to show how many fish tanks she has. Then skip-count to find the total number of fish.



   b. Draw and label a tape diagram to represent the problem.

_____ ÷ 3 = _____

Ms. Jones has _____ fish tanks.

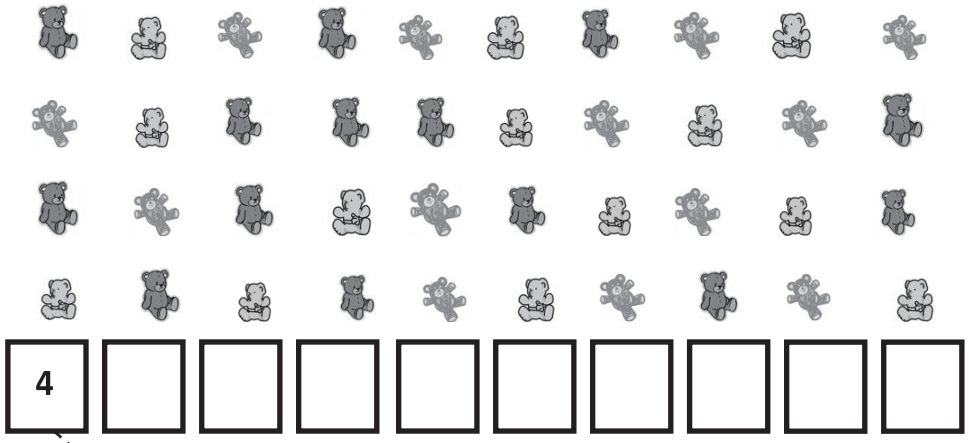
3. Juan buys 18 meters of wire. He cuts the wire into pieces that are each 3 meters long. How many pieces of wire does he cut?

4. A teacher has 24 pencils. They are divided equally among 3 students. How many pencils does each student get?

5. There are 27 third graders working in groups of 3. How many groups of third graders are there?

Name _____ Date _____

1. Skip-count by fours. Match the answers to the appropriate multiplication problem.



2. Lisa places 5 rows of 4 juice boxes in the refrigerator. Draw an array and skip-count to find the total number of juice boxes.

_____× 4 = _____

There are _____juice boxes in total.

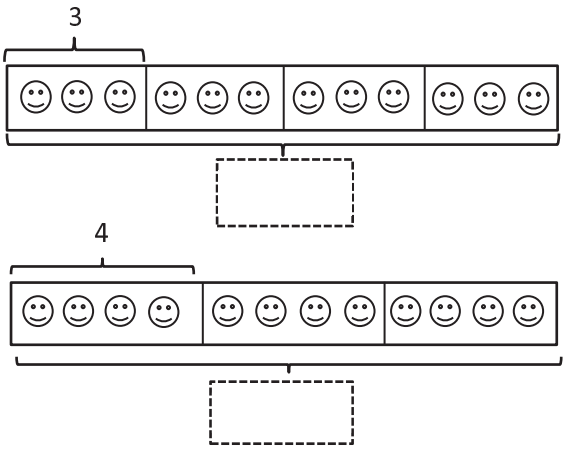
2. 6 folders are placed on each table. How many folders are there on 4 tables? Draw and label a tape diagram to solve.

3. Find the total number of corners on 8 squares.

Name _____ Date _____

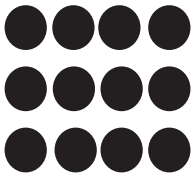
1. Label the tape diagrams and complete the equations. Then draw an array to represent the problems.

a.

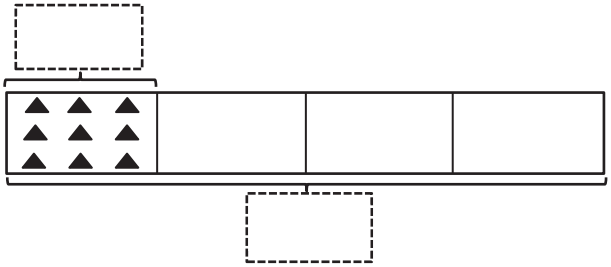


$4 \times 3 =$ _____

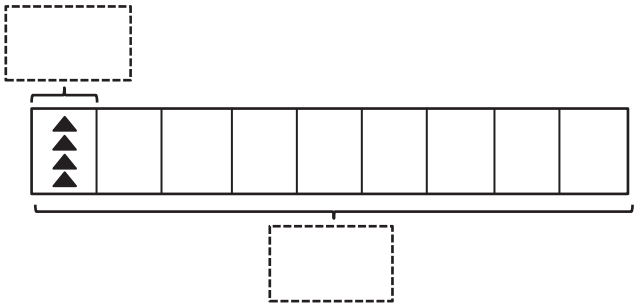
$3 \times 4 =$ _____



b.

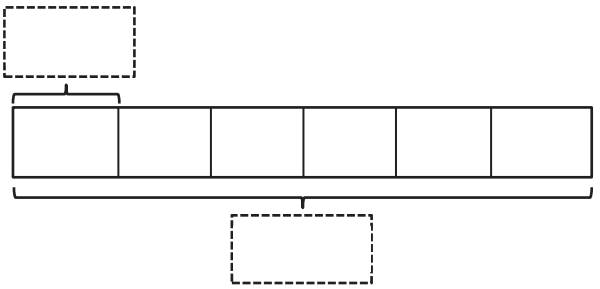


$4 \times$ _____ = _____

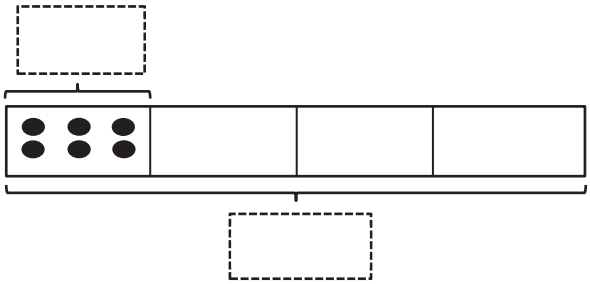


_____ $\times 4 =$ _____

c.



_____ × 4 = _____



4 × _____= _____

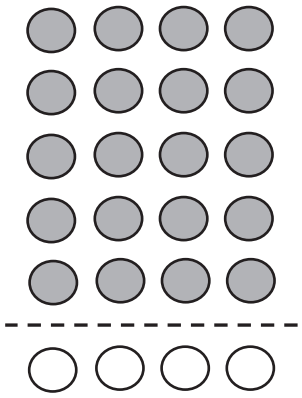
2. 7 clowns hold 4 balloons each at the fair. Draw and label a tape diagram to show the total number of balloons the clowns hold.

3. George swims 7 laps in the pool each day. How many laps does George swim after 4 days? Draw and label a tape diagram to solve.

Name _____ Date _____

1. Label the array. Then fill in the blanks below to make the statements true.

a. **6 × 4 =** _____



(5 × 4) = _20__

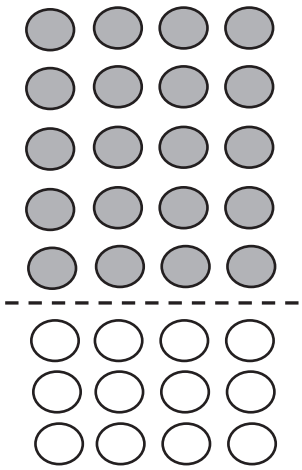
(___ × 4) = _____

(6 × 4) = (5 × 4) + (_____ × 4)

= __20__ + _____

= _____

b. **8 × 4 =** _____



(5 × 4) = _____

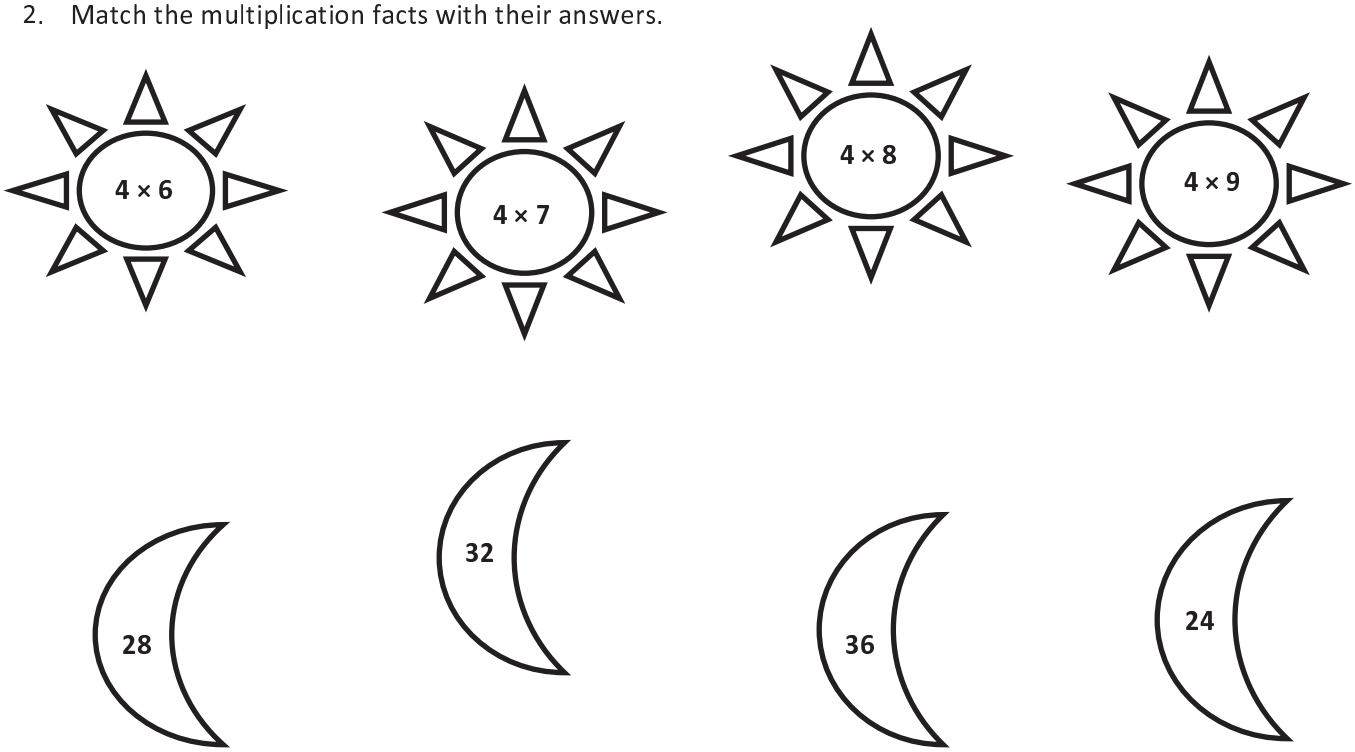
(____ × 4) = _____

(8 × 4) = (5 × 4) + (_____ × 4)

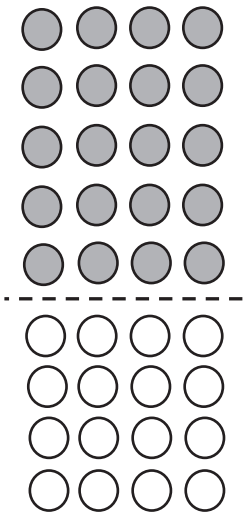
= _____+ _____

= _____

2. Match the multiplication facts with their answers.



3. The array below shows one strategy for solving 4 x 9. Explain the strategy using your own words.

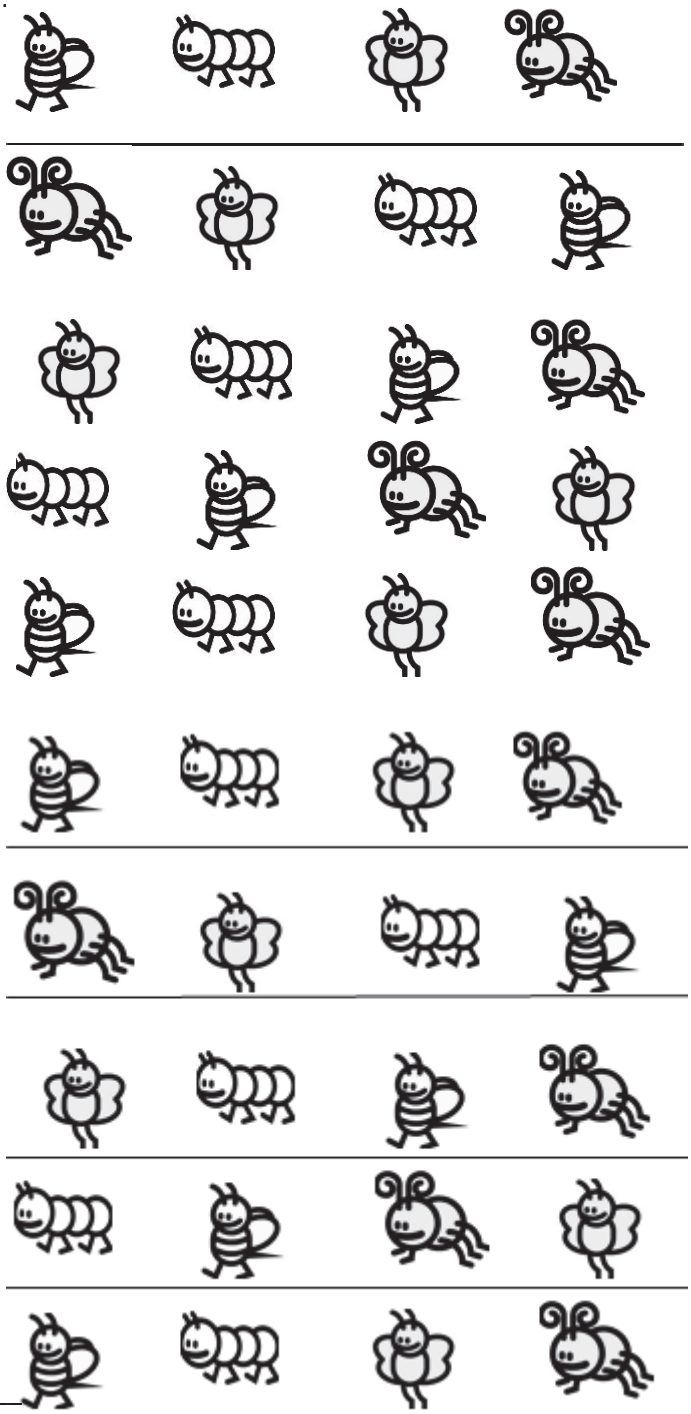


(5 × 4) = _____

(4 × 4) = _____

Name _____ Date _____

1. Use the array to complete the related number sentences.



1 × 4 = _____ _____ ÷ 4 = 1

2 × 4 = _____ _____ ÷ 4 = 2

_____ × 4 = 12 12 ÷ 4 =_____

_____ × 4 = 16 16 ÷ 4 =_____

_____ × _____ = 20 20 ÷ _____ = _____

_____ × _____ = 24 24 ÷ _____ = _____

_____ × 4 = _____ _____ ÷ 4 = _____

_____ × 4 = _____ _____ ÷ 4 = _____

_____×_____ = _____ _____ ÷ _____ = _____

_____×_____ = _____ _____ ÷ _____ = _____

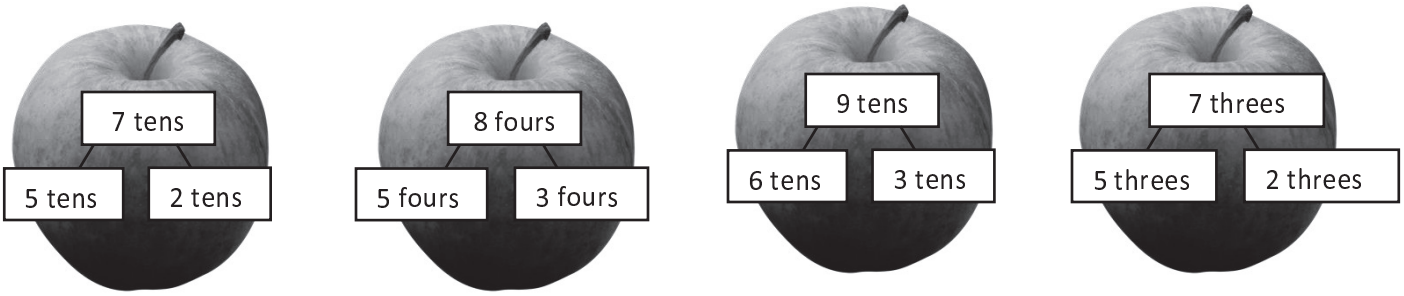
2. The teacher puts 32 students into groups of 4. How many groups does she make? Draw and label a tape diagram to solve.

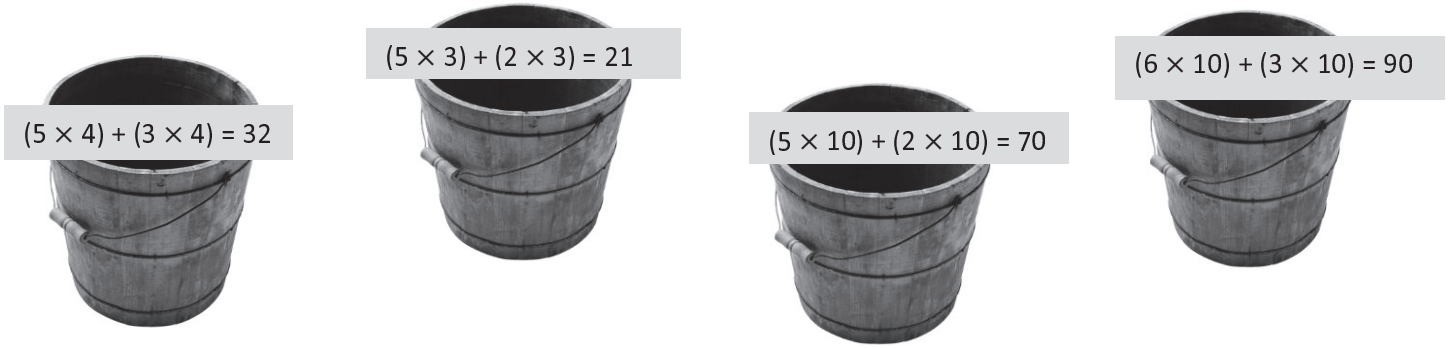
3. The store clerk arranges 24 toothbrushes into 4 equal rows. How many toothbrushes are in each row?

4. An art teacher has 40 paint brushes. She divides them equally between her 4 students. She finds 8 more brushes and divides these equally between the students as well. How many brushes does each student receive?

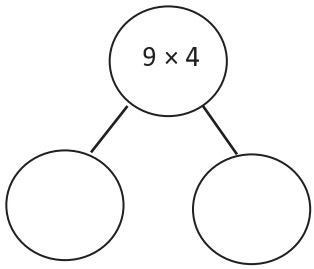
Name _____ Date _____

1. Match.





2. 9 × 4 = _____



(_____× 4) + (_____× 4) =

_____+ _____ = _____

9 × 4 = _____

3. Lydia makes 10 pancakes. She tops each pancake with 4 blueberries. How many blueberries does Lydia use in all?

Lydia uses _____ blueberries in all.

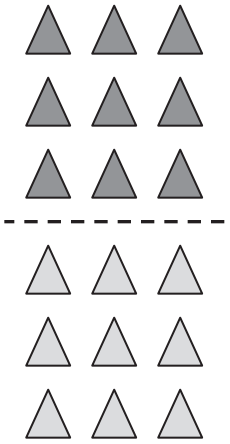
4. Steven solves 7×3 using the distributive property. Show an example of what Steven's work might look like below.

5. There are 7 days in 1 week. How many days are there in 10 weeks?

Name _____ Date _____

1. Label the array. Then complete the equations to make statements that are true. .

a. 18 ÷ 3 = _____



(9 ÷ 3) = 3

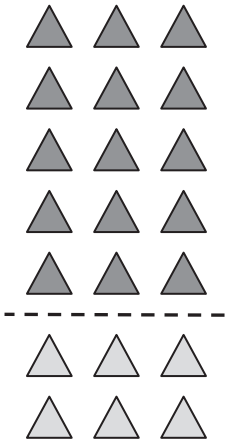
(9 ÷ 3) = _____

(18 ÷ 3) = (9 ÷ 3) + (9 ÷ 3)

= 3 + _____

= 6

b. 21 ÷ 3 = _____



(15 ÷ 3) = 5

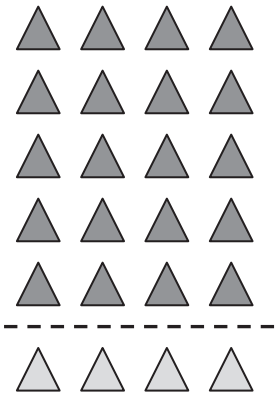
(6 ÷ 3) = _____

(21 ÷ 3) = (15 ÷ 3) + (6 ÷ 3)

= 5 + _____

= _____

c. 24 ÷ 4 = _____



(20 ÷ 4) = _____

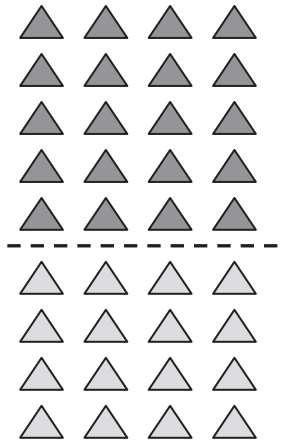
(4 ÷ 4) = _____

(24 ÷ 4) = (20 ÷ 4) + (____ ÷ 4)

= _____ + _____

= _____

d. 36 ÷ 4 = _____



(20 ÷ 4) = _____

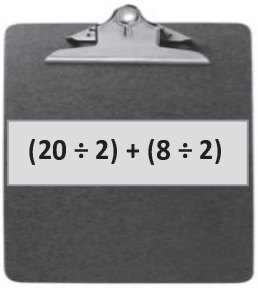
(16 ÷ 4) = _____

(36 ÷ 4) = (___ ÷ 4) + (___ ÷ 4)

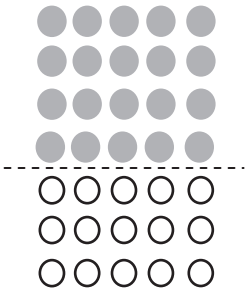
= _____ + _____

= _____

4. Match equal expressions.

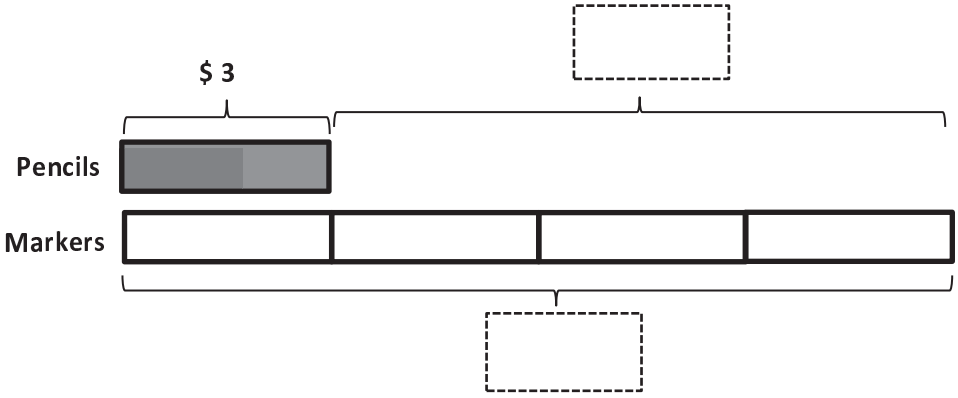


5. Alex draws the array below to find the answer to 35 ÷ 5. Explain Alex's strategy.



Name _____ Date _____

1. Jerry buys a pack of pencils that costs $3. David buys 4 sets of markers. Each set of markers also costs $3.

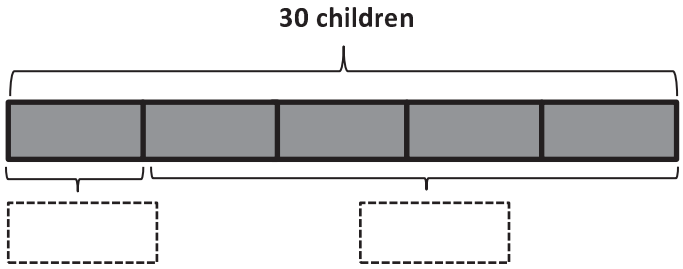


a. What is the total cost of the markers?

b. How much more does David spend on 4 sets of markers than Jerry spends on a pack of pencils?

2. Thirty students are eating lunch at 5 tables. Each table has the same number of students.

a. How many students are sitting at each table?



b. How many students are sitting at 4 tables?

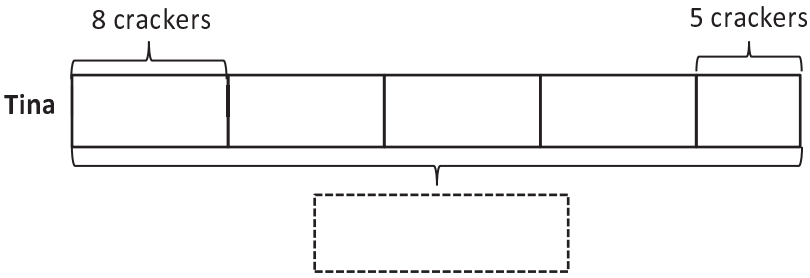
3. The teacher has 12 green stickers and 15 purple stickers. Three super star students are given an equal number of each color sticker. How many green and purple stickers does each student get?

4. Three friends go apple picking. They pick 13 apples on Saturday and 14 apples on Sunday. They share the apples equally. How many apples does each person get?

5. The store has 28 notebooks in packs of 4. Three packs of notebooks are sold. How many packs of notebooks are left?

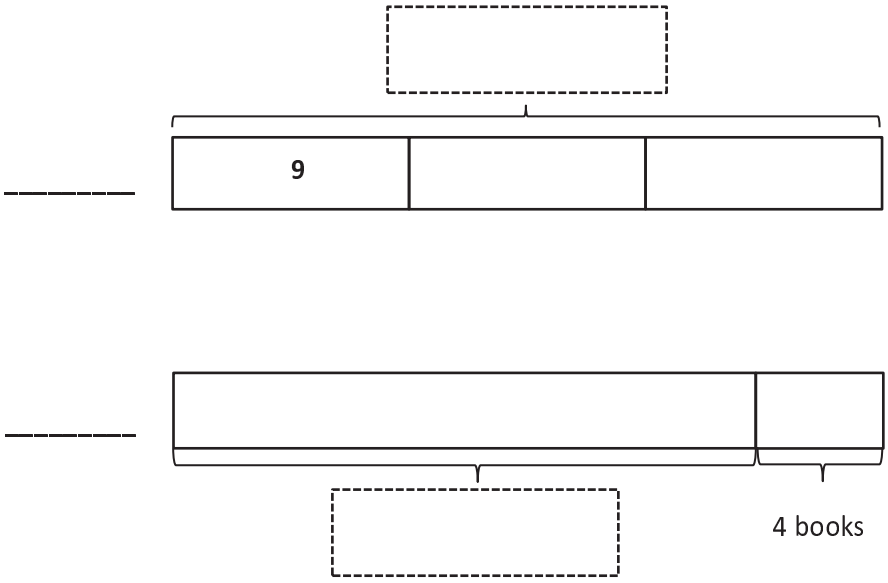
Name _____ Date _____

1. Tina eats 8 crackers for a snack each day at school. On Friday she drops 3 and only eats 5. Write and solve an equation to show the total number of crackers Tina eats during the week.



Tina eats_____ crackers.

2. Ballio has a reading goal. He checks 3 boxes of 9 books out from the library. After finishing them, he realizes that he beat his goal by 4 books! Label the tape diagrams to find Ballio's reading goal.



Ballio's goal is to read _____ books.

3. Mr. Nguyen plants 24 trees around the neighborhood pond. He plants equal numbers of Maple, Pine, Spruce, and Birch trees. He waters the Spruce and Birch trees before it gets dark. How many trees does Mr. Nguyen still need to water? Draw and label a tape diagram.

4. Anna buys 24 seeds and plants 3 in each pot. She has 5 pots. How many more pots does Anna need to plant all of her seeds?