Multiplicative Problems: NON-Symmetric

EQUAL GROUPS

PRODUCT UNKNOWN
(MULTIPLICATION)

Connie has 3 bags of cookies. There are 15 cookies in each bag. How many cookies does Connie have all together?

$3 \times 15 = \square$

 # OF GROUPS UNKNOWN
(MEASUREMENT DIVISION)

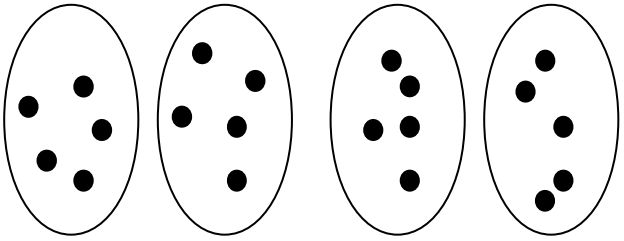
Connie has 45 cookies. She wants to put 15 cookies in each bag. How many bags can she fill?

$45 \div 15 = \square$

GROUP SIZE UNKNOWN
(PARTITIVE DIVISION)

Connie has 45 cookies. She wants to put the cookies into 3 bags with the same number in each bag. How many cookies are in each bag?

$45 \div 3 = \square$



Multiple copies/groups/sets.

Same number per copy/group/set.

MULTIPLICATIVE COMPARISONS & SCALING

PRODUCT UNKNOWN

The rubber band is 15mm long. It will be stretched three times as long. How long will it be then?

$3 \times 15 = \square$

MULTIPLIER/SCALAR UNKNOWN

Juan has 15 cookies. Connie has 45 cookies. How many times more cookies does Connie have than Juan?

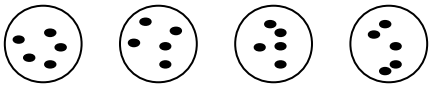
$45 \div 15 = \square$ $\square \times 15 = 45$

REFERENCE SET UNKNOWN

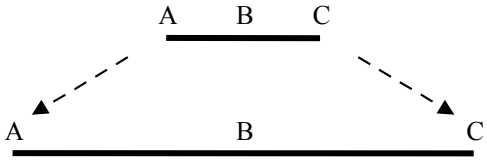
The length of the road is 45 feet. The scale factor of the model is 1 foot in the model for every 3 feet in real life. How long will the road be in the model?

$45 \div 3 = \square$ $3 \times \square = 45$

Multiple copies/groups/sets



Also, allows for **stretching**
(compare to copying the path three times)



Designed by Mathew D. Felton
Adapted from *Children's Mathematics* by Carpenter, et al. and *Elementary and Middle School Mathematics* by Van de Walle

Multiplicative Problems: SYMMETRIC

ARRAYS / AREA

TOTAL NUMBER UNKNOWN

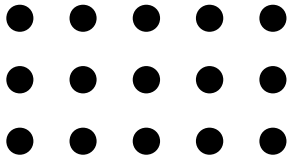
You have a garden with plants. There are 5 plants going across in every row and 3 going down in every row. How many plants are there?

$3 \times 5 = \square$ $5 \times 3 = \square$

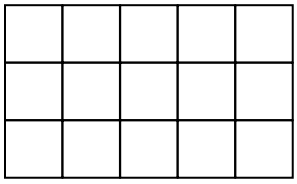
DIMENSION UNKNOWN

You are planting a garden with plants. You have 15 plants. You want to plant them so there are 5 going across in every row. How many rows will you plant?

$15 \div 5 = \square$ $5 \times \square = 15$



3 rows of 5 circles = 15 circles
or
5 columns of 3 circles = 15 circles



3 rows of 5 squares per row = 15 squares
or
5 columns of 3 squares per column = 15 circles

COMBINATIONS / PAIRS

OUTCOMES UNKNOWN

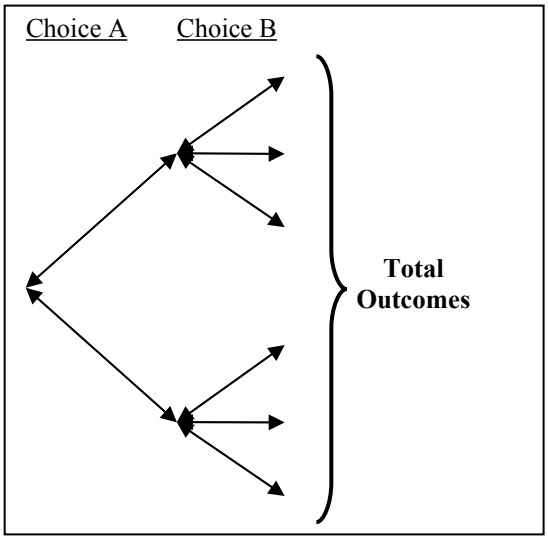
Connie has 2 pants and 3 shirts. How many outfits can she make?

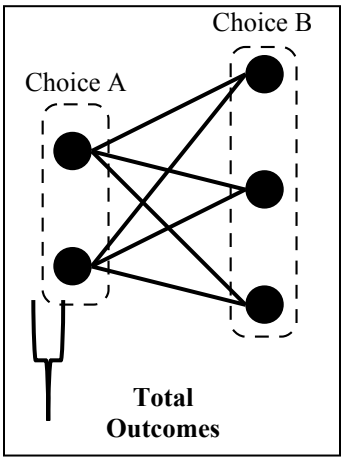
$2 \times 3 = \square$

ONE # OF CHOICES UNKNOWN

Connie has 6 pant-shirt outfits. She has 3 shirts. How many pants does she have?

$6 \div 3 = \square$ $3 \times \square = 6$





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