

NS3-58 Knowing When to Multiply or Divide: Word Problems

1. Fill in the table. Use a question mark to show what you don't know.

	Total Number of Things	Number of Sets	Number in Each Set	Multiplication or Division Sentence
a) 20 people 4 vans	20	4	?	$20 \div 4 = ?$
b) 3 marbles in each jar 6 jars	?	6	3	$6 \times 3 = ?$
c) 15 flowers 5 pots	15	5	?	$15 \div 5 = ?$
d) 4 chairs at each table 2 tables	?	2	4	$2 \times 4 = ?$
e) 20 flowers 4 in each row	20	?	4	$20 \div 4 = ?$
f) 6 seats in each row 2 rows	?	2	6	$2 \times 6 = ?$
g) 18 houses 9 houses on each block	18	?	9	$18 \div 9 = ?$
h) 15 chairs 3 rows	15	3	?	$15 \div 3 = ?$
i) 6 tents 3 campers in each tent	?	6	3	$6 \times 3 = ?$
j) 9 boxes 3 sea shells in each box	?	9	3	$9 \times 3 = ?$
k) 6 legs on each insect 42 legs	42	?	6	$42 \div 6 = ?$

2. Find the missing number in each part of Question 1.

The fact family for the multiplication sentence $3 \times 5 = 15$ is:

$3 \times 5 = 15$

$5 \times 3 = 15$

$15 \div 3 = 5$

$15 \div 5 = 3$

3. Complete the fact family for the given multiplication or division sentence.

a) $4 \times 2 = 8$

$2 \times 4 = 8$

$8 \div 2 = 4$

$8 \div 4 = 2$

b) $5 \times 6 = 30$

$6 \times 5 = 30$

$30 \div 6 = 5$

$30 \div 5 = 6$

c) $10 \div 2 = 5$

$10 \div 5 = 2$

$2 \times 5 = 10$

$5 \times 2 = 10$

d) $12 \div 4 = 3$

$12 \div 3 = 4$

$4 \times 3 = 12$

$3 \times 4 = 12$

e) $9 \times 3 = 27$

$3 \times 9 = 27$

$27 \div 3 = 9$

$27 \div 9 = 3$

f) $6 \times 8 = 48$

$8 \times 6 = 48$

$48 \div 6 = 8$

$48 \div 8 = 6$

4. Armand plants 24 trees in 3 rows. How many trees are in each row?

$24 \div 3 = 8$ 8 trees in each row

5. Alex plants 4 rows of trees with 7 in each row. How many trees did she plant?

$4 \times 7 = 28$ 28 trees in total

6. A canoe can hold 3 people.

a) How many canoes are needed for 21 people?

$21 \div 3 = 7$ 7 canoes

b) How many people can go canoeing with 5 canoes?

$5 \times 3 = 15$ 15 people

7. You need 3 tickets to ride the roller coaster at the amusement park.

a) Mandy, Tom, and Jane want to ride the roller coaster. How many tickets will they need altogether?

$3 \times 3 = 9$ 9 tickets needed

b) How many tickets are needed for 8 people?

$8 \times 3 = 24$ 24 tickets needed

BONUS ► Kim has 17 tickets. If she pays for herself and 4 of her friends, how many tickets will she have left?

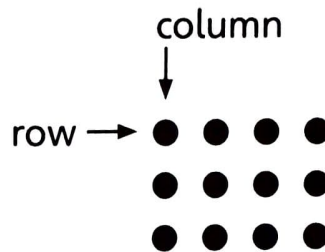
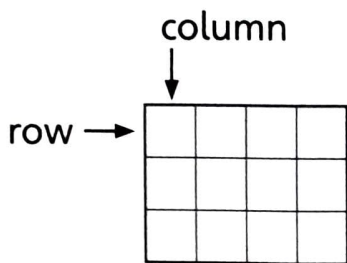
people $\rightarrow 5 \times 3 = 15$

tickets

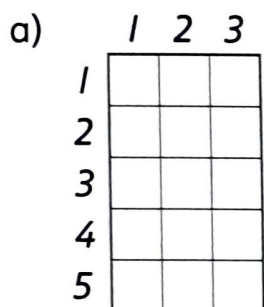
$17 - 15 = 2$ 2 tickets left over

NS3-60 Rows and Columns

REMINDER ► An array has rows and columns of objects, like squares or dots.



1. Number the rows and columns. Write the total number of small squares in the array.

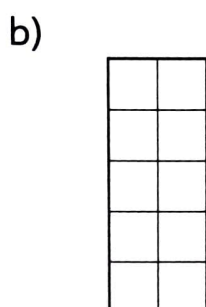


5 rows

3 columns

total $5 \times 3 = 15$

or $3 \times 5 = 15$

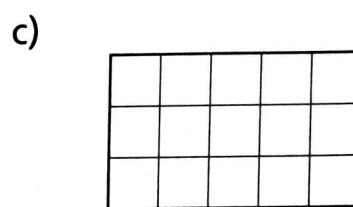


5 rows

2 columns

total $5 \times 2 = 10$

or $2 \times 5 = 10$



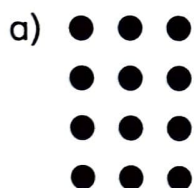
3 rows

5 columns

total $3 \times 5 = 15$

or $5 \times 3 = 15$

2. Count the rows and columns. Write the total number of dots in the array.

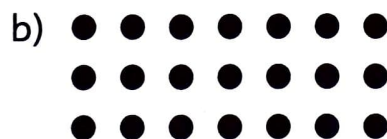


4 rows

3 columns

total $4 \times 3 = 12$

or $3 \times 4 = 12$

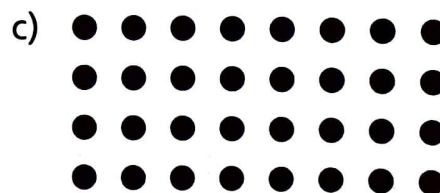


3 rows

7 columns

total $3 \times 7 = 21$

or $7 \times 3 = 21$



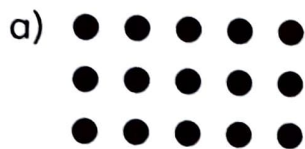
4 rows

8 columns

total $4 \times 8 = 32$

or $8 \times 4 = 32$

3. Write a multiplication sentence for the total number of dots. Then write another multiplication sentence and two division sentences for the array.



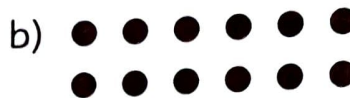
3 rows 5 columns

total $3 \times 5 = 15$

$5 \times 3 = 15$

$15 \div 5 = 3$

$15 \div 3 = 5$



2 rows 6 columns

total $2 \times 6 = 12$

$6 \times 2 = 12$

$12 \div 2 = 6$

$12 \div 6 = 2$

4. The table gives the number of rows and columns in arrays. Write two multiplication sentences and two division sentences for each array.

	Rows	Columns	Total	Sentences	
a)	5	2	10	$5 \times 2 = 10$ $2 \times 5 = 10$	$10 \div 5 = 2$ $10 \div 2 = 5$
b)	6	4	24	$6 \times 4 = 24$ $4 \times 6 = 24$	$24 \div 6 = 4$ $24 \div 4 = 6$
c)	3	7	21	$3 \times 7 = 21$ $7 \times 3 = 21$	$21 \div 3 = 7$ $21 \div 7 = 3$
d)	7	8	56	$7 \times 8 = 56$ $8 \times 7 = 56$	$56 \div 7 = 8$ $56 \div 8 = 7$
e)	8	6	48	$8 \times 6 = 48$ $6 \times 8 = 48$	$48 \div 8 = 6$ $48 \div 6 = 8$
f)	10	9	90	$10 \times 9 = 90$ $9 \times 10 = 90$	$90 \div 10 = 9$ $90 \div 9 = 10$

5. The question mark (?) is the number we do not know. Write a sentence that gives the unknown.

	Rows	Columns	Total	Sentence
a)	3	5	?	$? = 3 \times 5$
b)	?	6	18	$? = 18 \div 6$
c)	?	2	16	$? = 16 \div 2$
d)	4	?	36	$? = 36 \div 4$
e)	7	8	?	$? = 8 \times 7$
f)	9	?	45	$? = 45 \div 9$

6. Ken plants 8 rows of trees. He plants 3 trees in each row. How many trees does he plant? Draw an array of dots to show your answer.

$8 \times 3 = 24$ 24 trees in total

7. Randi arranges 35 chairs in rows with 5 chairs in each row. How many rows of chairs does she make?

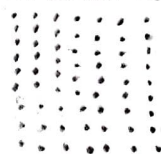
$35 \div 5 = 7$ 7 rows



8. Avril plants 12 flowers in 3 rows. How many flowers are in each row?

$12 \div 3 = 4$ 4 flowers in each row

9. Mona arranges 9 rows of beads with 7 beads in each row. How many beads are in her array?



$9 \times 7 = 63$ 63 beads in total



- BONUS ► John makes an array using dimes. He makes 2 rows with 4 dimes in each row.

- a) How many dimes does John use?

$2 \times 4 = 8$ 8 dimes

- b) If John has 14 dimes in 2 rows, how many dimes are in each row?

$14 \div 2 = 7$ 7 dimes in each row.



- BONUS ► Marko plants 6 rows of trees with 4 in each row. Tom plants 7 rows of trees with 3 in each row. How many more trees does Marko plant?

Marko plants 3 more trees

$6 \times 4 = 24$
 $7 \times 3 = 21$
 $24 - 21 = 3$



- BONUS ► Wendy arranges 36 stickers with 6 in each row. Raj arranges 49 stickers with 7 in each row. Who has more rows?

Raj has more rows.

$36 \div 6 = 6$
 $49 \div 7 = 7$

