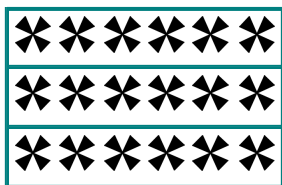


Multiplication as an Array

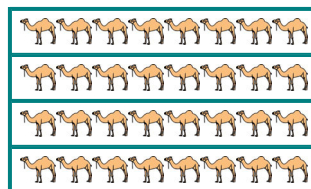
An **array** is an orderly arrangement of things in rows and columns. When things are neatly aligned in an array, we can think of the rows as groups, so an array still pictures multiplication as repeated addition.



3 rows, 6 crosses in each row.

$$6 + 6 + 6$$

$$3 \times 6 = 18$$



4 rows, 8 camels in each row.

$$8 + 8 + 8 + 8$$

$$4 \times 8 = 32$$

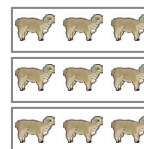
1. Fill in the missing numbers.



a. _____ rows, _____ carrots in each row.

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ carrots}$$



b. _____ rows, _____ rams in each row.

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ rams}$$



c. _____ rows, _____ bear in each row.

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ bears}$$



d. _____ rows, _____ bulbs in each row.

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ bulbs}$$