# Lesson 17
## The connection between multiplication and division. Coordinates.

**1** **Check** the result of the equations that Foxy Tail solved.

| | | |
|---|---|---|
| 462 – **x** = 75 | **y** - 118 = 856 | **z** – 145 = 238 |
| x = 383 | y = 974 | z = 383 |

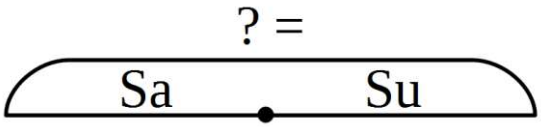
**Check:**

**2** Open up the parentheses:

| | |
|---|---|
| 95 + (3 + 11) = | 52 – (45 + 6) = |
| 95 + (*a* + *4*) = | 56 – (*h* + 15) = |
| 58 + (65 - 47) = | 24 – (11 - 6) = |
| 79 + (14 + *b*) = | *d* – (16 - *f*) = |

**3**

**A.** Mr. Frog has caught ***m*** mosquitoes on Saturday and another ***n*** mosquitoes on Sunday. How many mosquitoes did he catch over the weekend?

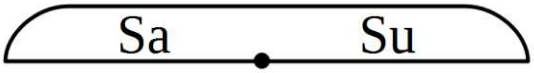



_____

**B.** Mr. Frog has caught ***m*** mosquitoes on Saturday. On Sunday he has caught ***n*** more mosquitoes than on Saturday. How many mosquitoes did he catch over the weekend?


_____

**C.** Mr. Frog has caught ***m*** mosquitoes on Saturday. This is ***n*** more mosquitoes than he has caught on Sunday. How many mosquitoes did he catch over the weekend?

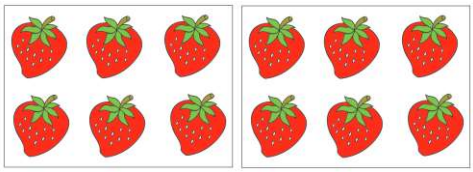



_____

## The connection between multiplication and division.

Multiplication and division are very closely related. They are reverse operations and both have to do with groups of equal size. You could say division is "backwards" multiplication. We get both a **multiplication fact** and a **division fact** from the same picture:

Two ***groups of 6*** makes 12. $2 \times 6 = 12$

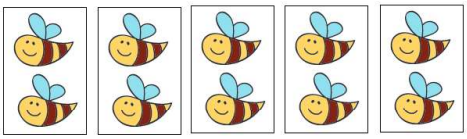


12 divided into ***groups of 6*** is two groups. $12 \div 6 = 2$

### 4

**a.** Five ***groups of 2*** is _____.

____ × 2 = ____

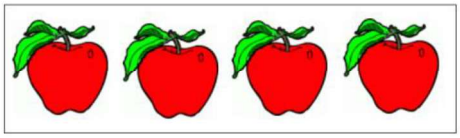


___ divided into ***groups of 2*** is ___ groups.

_____ ÷ 2 = ____

**b.** One ***group of 4*** is 4.

____ × 4 = ____



___ divided into ***groups of 4*** is ___ groups.

_____ ÷ 4 = ____

**c.** ____ ***groups of 3*** is _____.

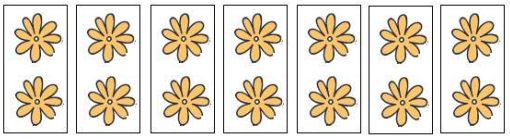
____ × ____ = ____

___ divided into ***groups of 3*** is ___ groups.

_____ ÷____ = ____

**d.** ____ ***groups of*** ____ is _____.

____ × ____ = ____



___ divided into ***groups of 2*** is ___ groups.

_____ ÷____ = ____

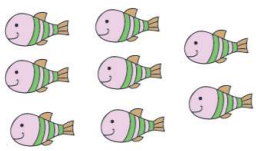
### 5

Make groups. Then write the division and multiplication facts that the pictures illustrate.

**a.** Make groups of four.

____ × 4 = 8

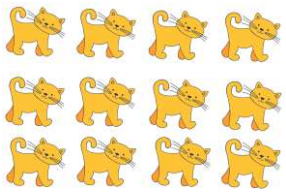
8 ÷ 4 = ____



**b.** Make groups of two.

_____ × 2 = _____

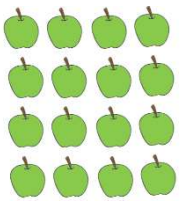
_____ ÷ 2 = _____



**c.** Make groups of four.

_____ × 4 = _____

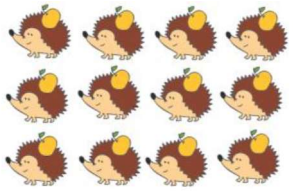
_____ ÷ 4 = _____



**d.** Make groups of six.

____ × 6 = _____

_____ ÷ 6 = ____



## 6

Fill missing numbers in multiplication-division table.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2 | 2 | | 6 | 8 | | 12 | 14 | | 18 | 20 |
| 3 | 3 | 6 | 9 | 12 | 15 | 18 | 21 | 24 | 27 | 30 |
| 4 | 4 | 8 | | 16 | 20 | 24 | 28 | 32 | 36 | |
| 5 | 5 | 10 | 15 | 20 | 25 | 30 | | 40 | 45 | 50 |
| 6 | 6 | | 18 | 24 | | 36 | 42 | 48 | 54 | 60 |
| 7 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 | 63 | |
| 8 | | 16 | 24 | 32 | 40 | 48 | 56 | 64 | 72 | 80 |
| 9 | 9 | | 27 | 36 | 45 | 54 | 63 | 72 | 81 | 90 |
| 10 | | 20 | 30 | 40 | 50 | 60 | 70 | 80 | | 100 |

Use multiplication-division table to calculate:

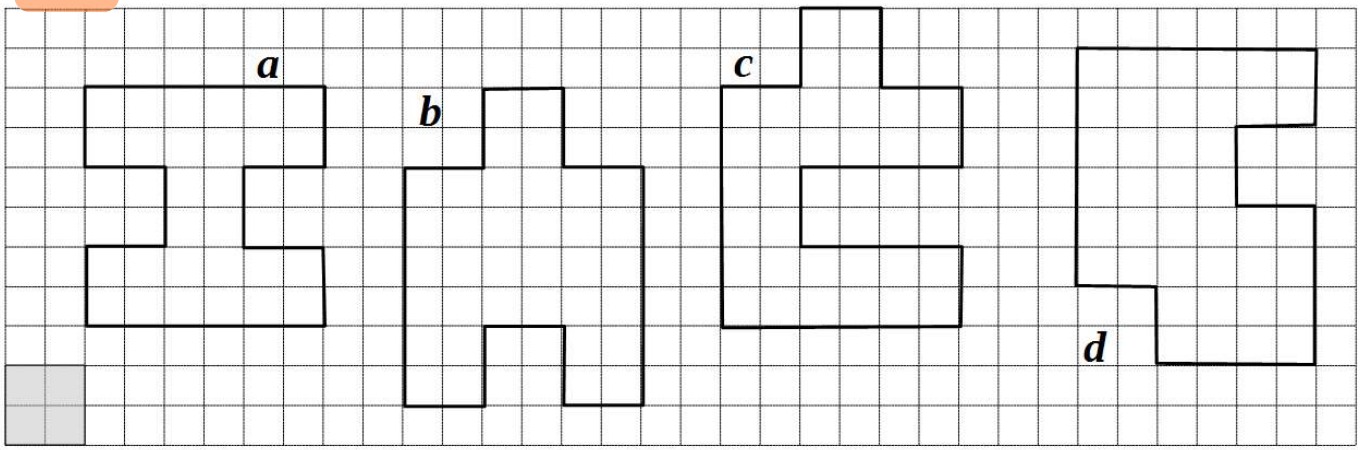
5 × 9 = ___ 27 ÷9 = ___ 7 × 2 = ___ 63 ÷ 7 = ___

56 ÷ 8 = ___ 18 ÷3 = ___ 6 × 4 = ___ 3 × 3 = ___

3 × 5 = ___ 32 ÷ 4 = ___ 9 × 6 = ___ 49 ÷ 7 = ___

## 7

What would be the best strategy to count cells in each of the shapes below?




How did you use division for cell counting? _____

How did you use multiplication in this strategy? _____

# Coordinates.

On maps and graphs, it is common to have a pair of numbers to show where a point is: the first number shows the distance along the horizontal direction from the zero point and the second number shows the distance along the vertical direction from the same zero point.

**8** Compare the coordinates of points ***A*** and **B**. Find coordinates of the other objects.

***C***( , )

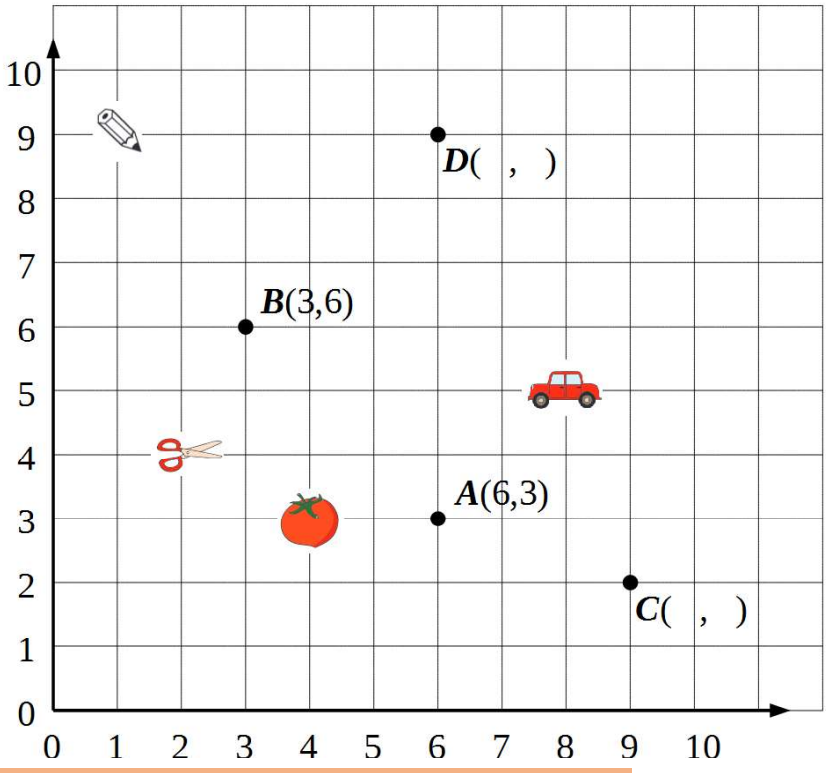
***D***( , )

( , )

( , )

( , )

( , )




**8** Write only A's to balance each scale.