

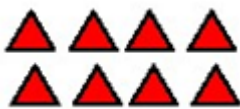
Algebra: Relate Operations

Multiplication and division are **inverse operations**. One operation undoes the other.

A **fact family** is a set of multiplication and division sentences that use the same numbers.

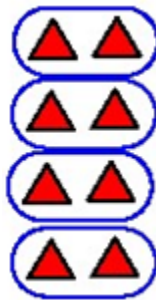
You can use models to show this. Write the fact family for the set of numbers.
2, 4, 8

$$2 \times 4 = 8$$



2 rows of 4
triangles each

$$8 \div 4 = 2$$



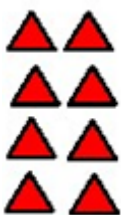
Divide 8 triangles
into 4 equal groups.

There are 2 triangles in each group.

$$\begin{aligned} \text{So, } 2 \times 4 &= 8 \\ 4 \times 2 &= 8 \end{aligned}$$

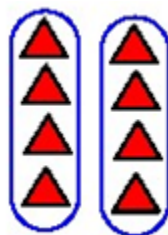
$$\begin{aligned} \text{So, } 8 \div 4 &= 2 \\ 8 \div 2 &= 4 \end{aligned}$$

Divide 8 triangles into 2 equal groups.



4 rows of 2 triangles each

$$\text{So, } 4 \times 2 = 8$$



There are 4 triangles in each group.

$$\text{So, } 8 \div 2 = 4$$

So, the fact family for 2, 4, 8 is :

$$2 \times 4 = 8$$

$$4 \times 2 = 8$$

$$8 \div 2 = 4$$

$$8 \div 4 = 2$$

Examples:

A- Write the fact family for the set of numbers.

1) 3, 5, 15

$3 \times 5 = 15$

$5 \times 3 = 15$

$15 \div 3 = 5$

$15 \div 5 = 3$

2) 8, 6, 48

$8 \times 6 = 48$

$6 \times 8 = 48$

$48 \div 8 = 6$

$48 \div 6 = 8$

B- Find the value of the variable.

3) $6 \times 9 = y$

$y = 54$

4) $21 \div u = 7$

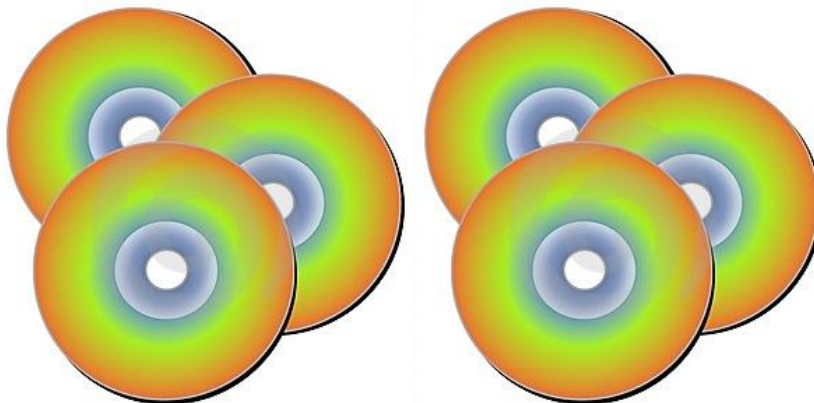
$u = 3$

5) $40 \div 5 = p$

$p = 8$

My Real Life

Sidra places 4 CDs in each CD box. She had 7 boxes. How many CDs did she place?



$4 \times 7 = 28 \text{ CDs}$