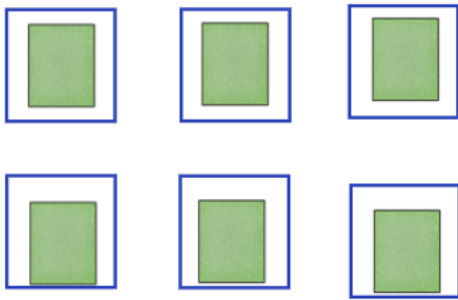


Remainder: lo que sobra

factor, in mathematics, **a number or algebraic expression that divides another number or expression evenly—i.e., with no remainder.** For example, 3 and 6 are factors of 12 because $12 \div 3 = 4$ exactly and $12 \div 6 = 2$ exactly

factor, en matemáticas, es un número o expresión algebraica que divide otro número o expresión por igual, es decir, sin ningún dígito sobrando. Por ejemplo, 3 y 6 son factores de 12 porque $12 \div 3 = 4$ exactamente y $12 \div 6 = 2$ exactamente

What are the factors of 6? (If there is any remainder then it is NOT a factor i.e. 'r' represents remainders so 'r0' means there are NO remainders)



1 IS a factor of 6

$$6 \div 1 = 6 \text{ r } 0 \text{ or } 6/1 = 6$$

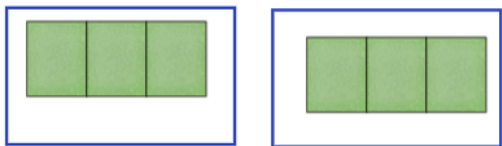
There are 6 blocks and 1 block goes into a group. We created 6 groups (blue). No remainder



2 IS a factor of 6

$$6 \div 2 = 3 \text{ r } 0 \text{ or } 6/2 = 3$$

There are 6 blocks and 2 blocks go into a group. We created 3 groups. No remainder



3 IS a factor of 6

$$6 \div 3 = 2 \text{ r } 0 \text{ or } 6/3 = 2$$

There are 6 blocks and 3 blocks go into a group. We created 2 groups. No remainder



$$1 \frac{2}{4}$$

There are 6 blocks and 4 blocks go into a group. We created 1 complete group. We have 2 remaining blocks out of 4 blocks we need to complete a group. 1 complete group and 2 out of 4 blocks for a second group.



4 IS NOT a factor of 6

$$6 \div 4 = 1 \text{ r } 2 \text{ or } 6/4 = 1 \frac{2}{4}$$

If there is a remainder it means there is a fraction which both tell us that it IS NOT a factor.



$$1 \frac{1}{5}$$

5 IS NOT a factor of 6

$$6 \div 5 = 1 \text{ r } 1 \text{ or } 6/5 = 1 \frac{1}{5}$$

There are 6 blocks and 5 blocks go into a group. We created 1 complete group. 1 block remains (we have 1 out of 5 blocks).



6 IS a factor of 6

$$6 \div 6 = 1$$

There are 6 blocks and 6 blocks go into a group. We created 1 complete group. 0 blocks remain.



Incomplete group: 6 out of 7 blocks. 6 remainder



Incomplete group: 6 out of 8 blocks. 6 remainder



Incomplete: 6 out of 9 blocks. 6 remainder

$$6 \div 7 = r6 \text{ or } 6/7$$

$$6 \div 8 = r6 \text{ or } 6/8$$

$$6 \div 9 = r6 \text{ or } 6/9$$

$$6 \div 12 = r6 \text{ or } 6/12 \text{ (12 is NOT a factor of 6)}$$

...

If we did $12 \div 6 = 2$ this means 6 IS a factor 12.

12 IS NOT a factor of 6, but 12 IS a multiple of 6. Multiples of 6 are 6, 12, 18, 24, 30, 36...

Factors of 6 are 1, 2, 3, and 6

Tip: 1 is always a factor. 2 is always a factor for even numbers.

What are the factors of 7?

Factors of 7 are 1 and 7

Multiples of 7 are 7, 14, 21, 28, 35...

$$7 \div 1 = 7 \text{ r0 or } 7$$

There are ____ blocks and ____ block(s) go into one group. We created ____ complete groups.
____ remainders

$$7 \div 2 = 3 \text{ r}1 \text{ or } 7/2 = 3 \frac{1}{2}$$

There are 7 blocks and 2 block(s) go into one group. We created 3 complete groups. 1 remainders

$$7 \div 3 = 2 \text{ r}1 \text{ or } 7/3 = 2 \frac{1}{3}$$

There are blocks and block(s) go into one group. We created complete groups. remainders

$$7 \div 4 = 1 \text{ r}3 \text{ or } 7/4 = 1 \frac{3}{4}$$

There are blocks and block(s) go into one group. We created complete group. remainders

$$7 \div 5 = 1 \text{ r}2 \text{ or } 7/5 = 1 \frac{2}{5}$$

There are 7 blocks and 5 block(s) go into one group. We created 1 complete group and have 2 out of 5 blocks for the second group

$$7 \div 6 = 1 \text{ r}1 \text{ or } 7/6 = 1 \frac{1}{6}$$

There are blocks and block(s) go into one group. We created complete groups and have out of blocks for the second group

$$7 \div 7 = 1 \text{ r}0 \text{ or } 7/7 = 1$$

There are blocks and block(s) go into one group. We created complete groups. remainders

$$7 \div 8 = \text{r}7 \text{ or } 7/8$$

There are blocks and block(s) go into one group. We created complete groups. remainders

I will show a better and faster way to find factors, but it is more important to understand than know.

What are the factors of 8?