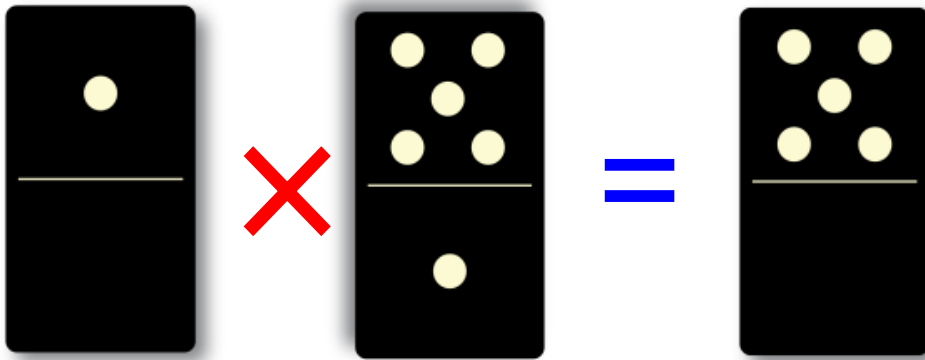
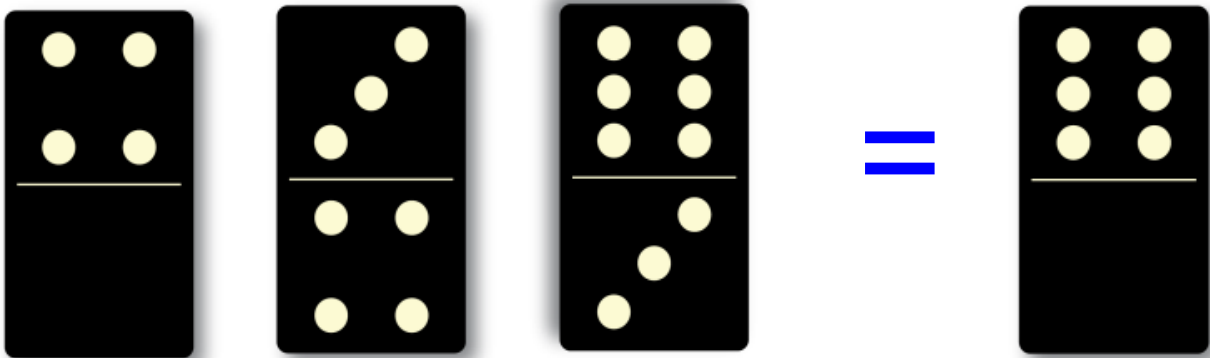


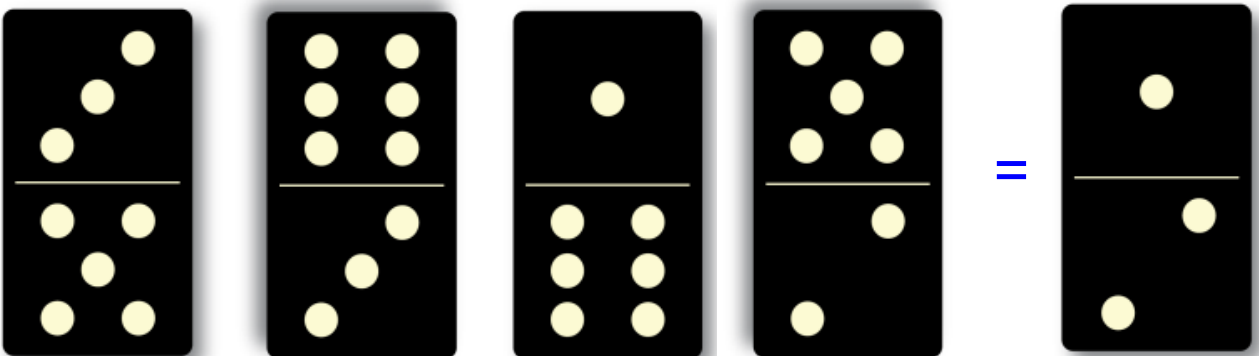
What's the Rule?



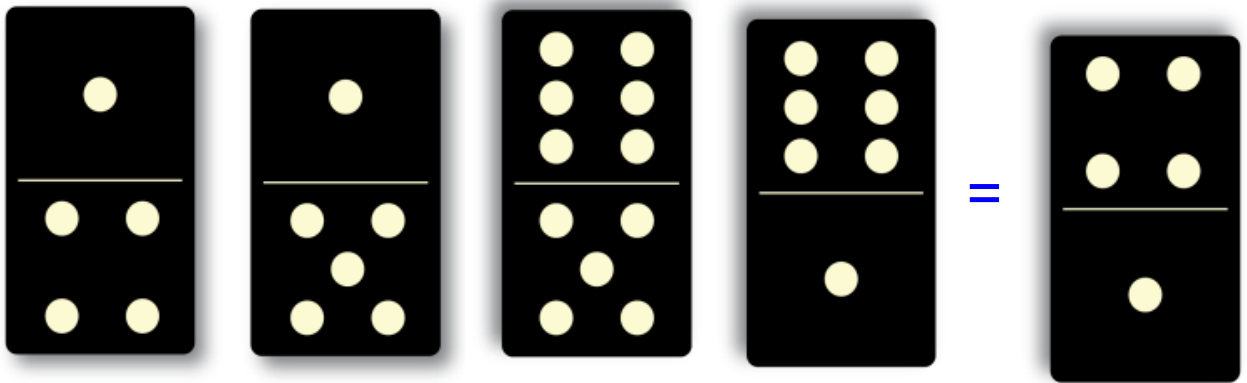
What's the Rule?



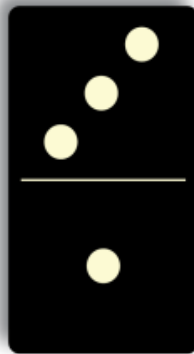
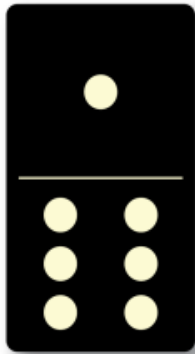
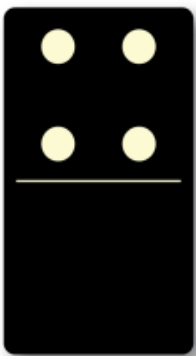
What's the rule?



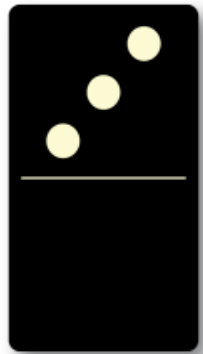
How would you fix this? 😊



What's the missing piece?
Grab it from the gallery and
drag it in! 😊



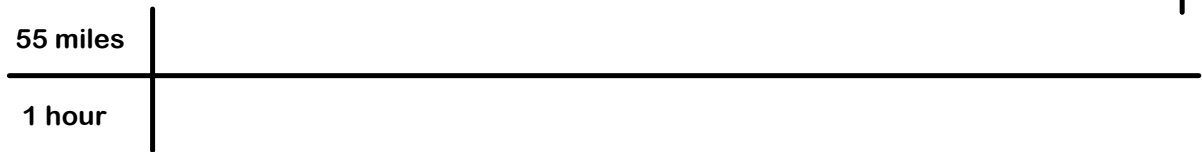
=



3 ft = 1 yd 1 mile = 1600 m 5280 ft = 1 mile

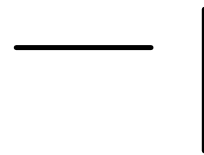
1 hour = 60 minutes 1 minute = 60 seconds

Convert 55 mi/hour to m/s.



What do we need to fix in the following example?

If you are 15 years old, and your heartbeats and average of 70 times per minute, how many heartbeats have you had in your lifetime?



15 years	365 days	365 days	1 hour	1 minute	= 19.8 beats
	1 year	24 hours	60 minutes	70 beats	

An equality exists when two quantities are equal to each other!

12 inches = 1 foot (these two measurements are EQUAL in length.)

1 day = 24 hours (these two measurements are EQUAL in time!)

Labeled Ratio:
A ratio derived from an equality.

Examples

_____ OR _____

_____ OR _____

The Rules of the game:

Dimensional Analysis - a powerful method of problem solving using fractions with units!

Steps:

1. Write the starting information on the left side of your paper.
2. Write what you are trying to find on the right side of the paper.
3. Solve by multiplying the starting information by the appropriate fractions, making sure the units are criss-crossed from each other and cancelled as appropriate.

Try these:

How many minutes are in 5 hours?

How many seconds are in 3 days?

How many yards are in one mile?

Fweebap the Martian needs to buy a new spaceship. The spaceship dealer wants 530 Glurbs for the Lightspeed 4000 model. Fweebap has \$2200 (US dollars) in his pocket. Knowing the following information, does Fweebap have enough money to purchase the Lightspeed 4000?

Currency exchange rates

$$\text{\$3} = 2 \text{ shmerkels}$$

$$9 \text{ wips} = 4 \text{ shmerkels}$$

$$1 \text{ glurb} = 6 \text{ wips}$$

Drag the information you need from the problem and the exchange rates above

I really want this spaceship! Do I have enough money?



So why would anyone ever need to use this!?!
Why is it one of the most important tools in
science?

THE CRASH OF FLIGHT 143

by Peter Banks

It was a smooth flight as Air Canada 143 made its way from Montreal to Edmonton on the afternoon of July 23, 1983. Below were cottony clouds, ahead only blue sky and clear air. The Boeing 767 cruised at 469 knots, nearing a route check-point at Red Lake, Ontario.

Chem Matters, October 1996