8th grade

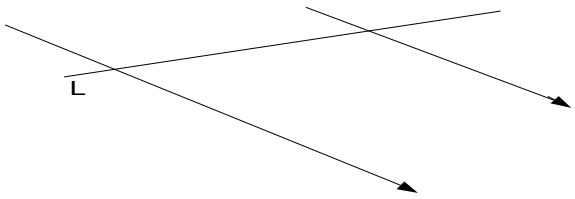
Parent's Edition

VII. Parallel Lines and the Transversal

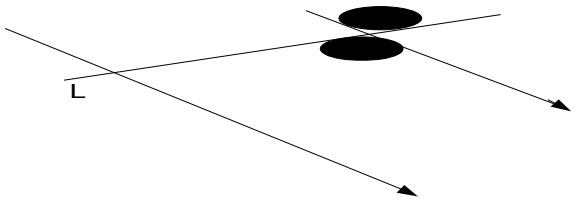
The following *name game* is perhaps the clearest example of what's really wrong with school-math. Many adults still get feelings of anxiety when they see this simple picture of two **parallel lines** and a third line (terrifyingly) known as the **transversal**. Students worldwide have to memorize these *5* illogical and confusing *names for angle pairs*. Instead of helping them understand what should be a very, very simple pattern, this crazy "approach" causes **math trauma**. This school-math labyrinth has many students second guessing themselves about something that really should be totally obvious.

the two lines with arrows are **parallel**

L is a third line called the **transversal**

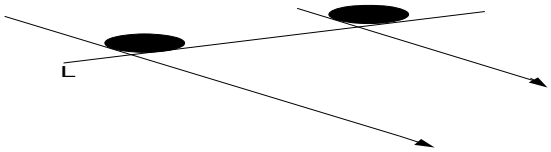


I. It's pretty obvious that angles across from each other are always *equal* (these angles should be called **opposite angles**, but school-math calls them **vertical angles**[1]). Try making an X with your fingers and then moving your fingers to see how that works.



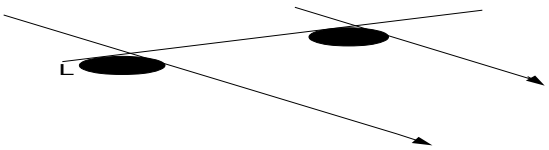
these two black angles are **equal**.

II. The two parallel lines are going in the *same direction* (that's what parallel means!), so it makes sense that *line L* would make the *same* angle with the *each* of those two parallel lines.



So these two black angles are **equal**

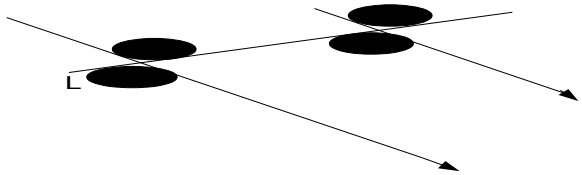
and



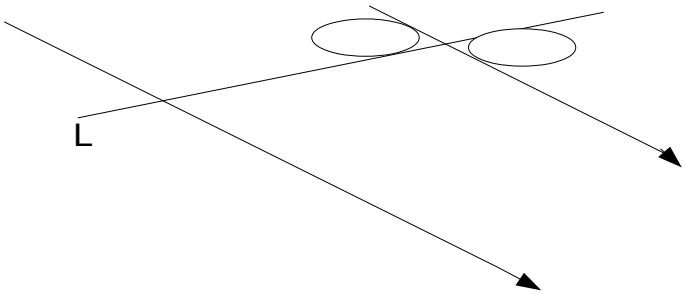
these two black angles are **equal**.

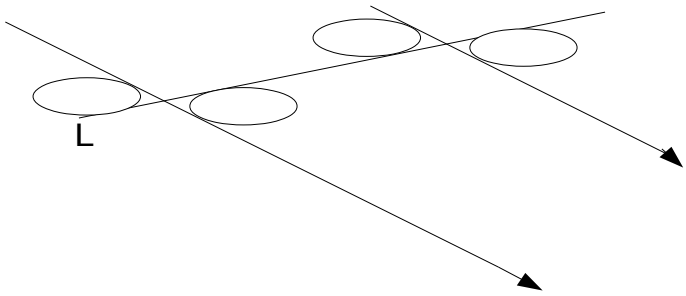
1 These angles could be vertically or horizontally across from each other or in-between, so this name is misleading and confusing.

So then, these four black angles must all be **equal**.



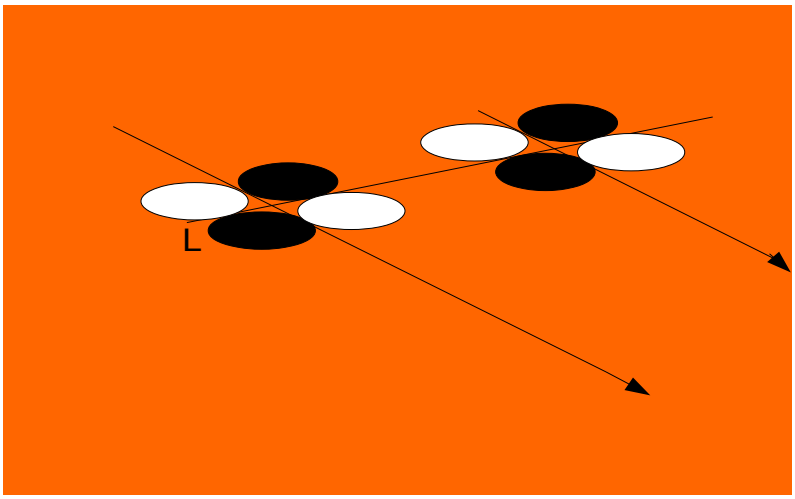
Now we can just repeat steps *I* and *II* starting with a white angle on the other side:





and conclude that all the white angles are also **equal**:

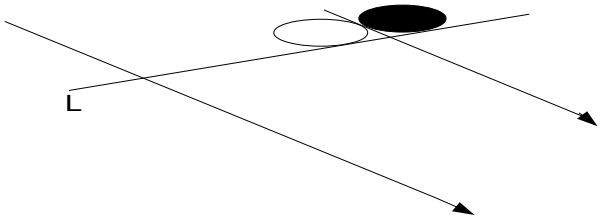
Finally, we get this very simple pattern:



All the black angles are **equal** to each other and all the white angles are **equal** to each other.

Also, any black and any white angle *together* form *180 degrees*, *p...*

because they form a **straight line**:



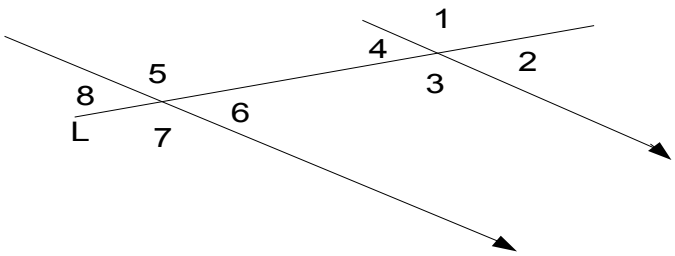
All the black angles are **equal** to each other and all the white angles are **equal** to each other..

Any white angle plus any black angle is always *180 degrees*.

That's all there is to this topic!

Except....

...here's what happens in school-math. *Memorize!*



angle pair names	**angle pair** examples	are they **equal**?
corresponding	*1* and *5* *4* and *8*	**equal**
corresponding exterior	*1* and *8* *2* and *7*	*not* **equal** even though they are called **corresponding**
corresponding interior	*4* and *5* *3* and *6*	*not* **equal** even though they are called **corresponding**
alternate exterior	*1* and *7* *2* and *8*	**equal** even though they are called **alternate**
alternate interior	*4* and *6* *3* and *5*	**equal** even though they are called **alternate**
same side angles:		
vertical should really be called **opposite angles**	*1* and *3* *2* and *4*	**equal**

There are *5 absurd names* for **angle pairs** in a picture with only *2 different angles* in the first place.

There is nothing more to this topic, no further use for these names later on. These names *never* come up again, ever!

So!

The most depressing detail is this trick to memorize these 5 incredible angle pair names and whether the two angles in each pair are equal or not.

Watch this! The *pinnacle of school-math absurdity*, I believe I may have found it! (see table on the previous page)

corresponding angles are indeed **equal** as the name would seem to imply,

but...

All other **angle pair** with the word **corresponding** in it, the angles are *not* **equal**

(the opposite of what you would expect)

also...

All **angle pairs** with the word **alternate** in it *are* **equal**

(again the opposite of what you would expect)

So everything is almost upside-down-world, except for **corresponding angles**.

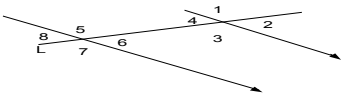
You "just" need to remember:

corresponding angles means the **angles** *are* **equal,**

in *every* other case **corresponding** means *not* **equal** and **alternate** means **equal**

Ta-Da!

Oh No! In the *10th* edit[2] I have finally realized the most terrifying truth about this ridiculous "topic".



Corresponding angles are **angle pairs** on the *same* side where one is **exterior** and one is **interior.**

What are **angle pairs** on *different* sides where one is **exterior** and one is **interior** called?

corresponding angles (corresponding corresponding angles)	**????**
corresponding exterior angles	**alternate exterior angles**
corresponding interior angles	**alternate interior angles**

That's right, there simply is *no* name for angle pairs (*5*, *2*) (*8*, *3*) (*7*, *4*) (*6*, *1*) !!

Genius! An absolute masterpiece of non-sensical confusion! Exceptional work school-math! Bravo!

The only logical name for these "lost" angles would be **alternate angles** (like **corresponding angles**.) Better yet (following the logic on the next page) they should really be called **alternate non-corresponding angles**. **Alternate angles** would in fact be the only **alternate** angles that are *not* equal (*p...*) just as **corresponding angles** are the only **corresponding** angles that *are* equal, so there is a symmetry in this mess! Or rather there would be, if school-math did not simply leave out the last piece of the puzzle.

The very fact that there are *5* types of angle pairs instead of *6* types of angle pairs in this scheme defies the most basic concepts of symmetry.

It just leaves a extraordinarily bad taste in your mouth, mathematically.

It's really enough to make anyone hate math.

HELP!

2 If the author needed years and 10 edits to come to terms with this labyrinth, how incredibly confusing must this maze be for a *8th* grader without a tutor or other background support.

Tidbit: I knew school-math was confusing when I started writing this book but on this topic I found myself shocked by how bad the situation really is. In this particular labyrinth school-math uses the word **corresponding** in two *completely* different meanings in one picture.

For **corresponding angles** (*1*, *5*) it means that angles are **equal** .
This is a pretty straightforward use of the word corresponding to mean "in the same corresponding position and therefore equal."
But in all other instances of the word corresponding here, such as **corresponding interior angles** (*1*, *5*), corresponding does *not* mean equal but rather apparently it must mean "on the same side of the *line*", and these angles are *not* equal.

But wait! For *$9.99* there's more...

It occurs to me that the only way to logically explain this mess would be to say we have *3* types of **angle pairs** that are *corresponding***,** or on the same side of a line:

I. *both* **interior** (**corresponding interior**)

II. *both* **exterior (corresponding exterior)**

III. one **interior** one **exterior** (**corresponding corresponding**)

So **corresponding angles** need to be renamed

corresponding corresponding angles

so that school-math makes sense! I can keep going you know..

alternate corresponding angles anybody? ……lol...

I'm sure you get the picture by now. This is some sick stuff! It makes no sense! All it does is cause unnecessary confusion, undue stress and leads to, you guessed it, **math trauma**!

Math must make sense! This is a completely unnecessary travesty!

...sorry, I have to add this. This happened about a month after I wrote the box on the left.

To my own disbelief, I saw written in a school-math book almost exactly what I described on the left here as a joke!

The only difference was, this book added the word, **congruent**, to the mix.

So, believe it or not, instead of my suggestion, on the left:

corresponding corresponding angles

this school-book (word to my moms) actually had:

corresponding congruent angles.

I am not making this up...drops mic!