

ANSWER MAZE



PARALLEL LINES, TRANSVERSALS AND ANGLE PAIRS

Naming the pairs a transversal makes

One page · ten minutes · nothing to prepare

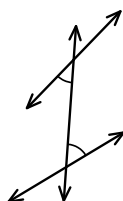
FREE

1

What are the two marked angles called?

Alternate interior → **go to 5**
Same-side interior → **go to 4**

Same side of the transversal, or opposite sides? That question first, the region second.

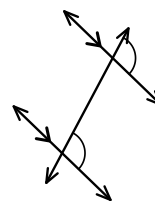


2

What are the two marked angles called?

Same-side exterior →
go to 7
Corresponding → **go to 6**

Between the two crossed lines, or outside them? Ask it of each arc on its own.

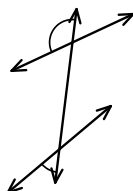


3

What are the two marked angles called?

Same-side exterior →
you are out
Alternate exterior → **go to 4**

Arrowheads or none, the name is read the same way. It means where the two arcs sit, and nothing else.

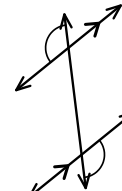


4

What are the two marked angles called?

Same-side exterior → **go to 1**
Alternate exterior → **go to 5**

Same side of the transversal, or opposite sides? Alternate means opposite sides. The other three names all mean the same side.



1. **Hand out page 3.** That is the whole preparation.
2. **Say this once:** *“Write every box number in the row at the bottom as you go. If your row has more than 6 numbers, you took a wrong turn. The row shows where.”*
3. **Start at box 1.** Name the marked pair. Go to the box that name sends you to. You are out after 6 boxes.

Student sheet	page 3, one per student. It carries the five names as pictures.
Answers	page 4.

The route is $1 \rightarrow 5 \rightarrow 8 \rightarrow 2 \rightarrow 6 \rightarrow 3 \rightarrow \text{out}$. Boxes 4 and 7 are not on it. A wrong name sends a student there. **They look like every other box on purpose.** Each has a figure, a task, two names and two boxes to go to, and both lead back onto the route. Nothing on the page tells a student which two boxes they are.

The two wrong names are not the same kind of wrong, and that is the whole sheet. A name fixes two things: which side of the transversal, and which region. On every box the other name offered is the right one with *exactly one* of those two turned over — so a student who lands on one of the two has told you which of the two comparisons they read backwards. **Box 4** is where the side is wrong and its hint asks the side question. **Box 7** is where the region is wrong and its hint asks the region question. A class that keeps arriving at one of them has one thing to reteach, not five.

And the right name is not always the top line. It is printed first on 3 of the 8 steps and second on the rest. A student who always takes the top answer does not get out.

4 of the 8 figures have no arrowheads. The name is read exactly the same way on them. Nothing on this page is measured and nothing is equal to anything — these are names for *where* two angles sit, and the word *parallel* is not in one of the five definitions. Whether a named pair is also equal is the next lesson.

What the row at the foot tells you in one glance, and it is the whole check. A sheet whose row reads $1 \rightarrow 5 \rightarrow 8 \rightarrow 2 \rightarrow 6 \rightarrow 3$ is right. **A clean run is 6 numbers;** every wrong turn makes the row longer, never shorter, because neither box off the route can put a student further along it than the step after the one they left. A row of 7 or 8 is a student who went wrong once and found their way back, which is worth a word rather than a mark, and it shows the exact box where it happened.



This is the free lesson this activity came from. The worksheet, the full answers and the lesson plan are on it, at three levels of difficulty.
chooseyourlesson.com — 135 free geometry lessons.

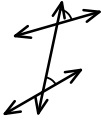
Answer Maze

Start at box 1

Name _____

Period _____

Date _____



Corresponding

same side · one interior, one exterior



Alternate interior

opposite sides · both interior



Alternate exterior

opposite sides · both exterior



Same-side interior

same side · both interior



Same-side exterior

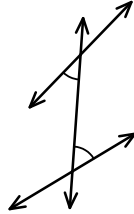
same side · both exterior

1

What are the two marked angles called?

Alternate interior → **go to 5**
Same-side interior → **go to 4**

Same side of the transversal, or opposite sides? That question first, the region second.

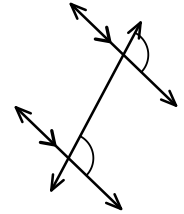


2

What are the two marked angles called?

Same-side exterior → **go to 7**
Corresponding → **go to 6**

Between the two crossed lines, or outside them? Ask it of each arc on its own.

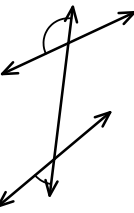


3

What are the two marked angles called?

Same-side exterior → **you are out**
Alternate exterior → **go to 4**

Arrowheads or none, the name is read the same way. It means where the two arcs sit, and nothing else.

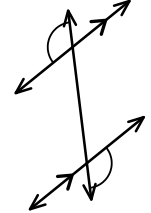


4

What are the two marked angles called?

Same-side exterior → **go to 1**
Alternate exterior → **go to 5**

Same side of the transversal, or opposite sides? Alternate means opposite sides. The other three names all mean the same side.

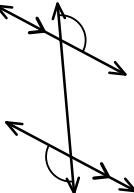


5

What are the two marked angles called?

Alternate interior → **go to 7**
Alternate exterior → **go to 8**

Look at one arc at a time. Is it between the two crossed lines, or outside them?

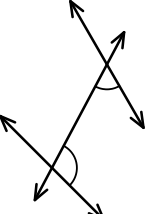


6

What are the two marked angles called?

Alternate interior → **go to 4**
Same-side interior → **go to 3**

Which side of the transversal, then which region. A name means those two answers and nothing else.



7

What are the two marked angles called?

Alternate exterior → **go to 5**
Alternate interior → **go to 8**

Between the two crossed lines, or outside them? Interior means between the lines. Exterior means outside them. Corresponding means one of each.

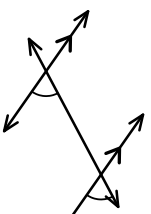


8

What are the two marked angles called?

Corresponding → **go to 2**
Same-side interior → **go to 7**

The transversal is the line that crosses both the others. Every side question means that line.



Write every box number here as you go. It shows you the way back if you get lost. Your teacher reads this row too. **A clean run is 6 numbers.**

The route, in order. Boxes 4 and 7 are off the route and are on nobody's correct run; they carry a task like every other box, and both of their branches lead back onto the route. The angle numbers below are 1 to 4 at the upper crossing and 5 to 8 at the lower. They are not printed on any box.

1 → 5 → 8 → 2 → 6 → 3 → out

	Step	Marked	Is	The other name offered	Sends them to
1	Step 1	angles 3 and 6	Alternate interior	Same-side interior (<i>side wrong → 4</i>)	step 5
2	Step 5	angles 2 and 7	Alternate exterior	Alternate interior (<i>region wrong → 7</i>)	step 8
3	Step 8	angles 3 and 7	Corresponding	Same-side interior (<i>region wrong → 7</i>)	step 2
4	Step 2	angles 2 and 6	Corresponding	Same-side exterior (<i>region wrong → 7</i>)	step 6
5	Step 6	angles 4 and 6	Same-side interior	Alternate interior (<i>side wrong → 4</i>)	step 3
6	Step 3	angles 1 and 7	Same-side exterior	Alternate exterior (<i>side wrong → 4</i>)	out

Every wrong name on this page is the right name with one thing changed: the side or the region. There is no third way to reach box 4 or box 7 and no slip of the pen that produces one, so the hint each of them carries names the misunderstanding exactly: box 4 is *which side of the transversal*, box 7 is *interior or exterior*. Read the row at the foot of a student's sheet and you know which. **Every box carries a hint of the same shape in the same place**, so nothing on the student's page says which two are off the route.

4 of the 8 figures are two lines that are not parallel, and not one name on the page changes because of it. Each of the five names fixes a side and a region and says nothing at all about the two crossed lines.