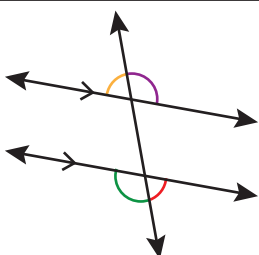
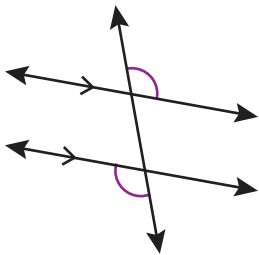


Exterior Angles	Angles formed between the transversal and two parallel lines, located outside the parallel lines.	
Alternate Exterior Angles	Exterior angles that are not adjacent and lie on opposite sides of the transversal.	

**exterior angles
formed by a
transversal**

Angles formed
between a
transversal and the
lines it crosses, on
the outsides of the
lines crossed.

**alternate exterior
angles**

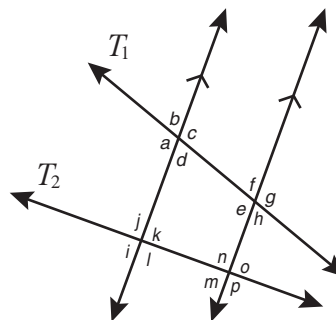
Exterior angles
formed by a
transversal that are
on opposite sides of
the transversal.



Practice Run

- List all of the pairs of angles for each relationship listed when each transversal, T_1 and T_2 , crosses the **parallel** lines.

- corresponding angles
- opposite angles
- alternate exterior
- alternate interior



- Based on everything you have seen so far, how do the sizes of the pairs of angles appear to compare for each relationship listed in 1?



Compare your answers.

1. List all of the pairs of angles for each relationship listed when each transversal, T_1 and T_2 , crosses the **parallel** lines.

- a. corresponding angles

The pairs of corresponding angles are ae , bf , cg , dh , im , jn , ko , and lp . Pairs like ai and bj are corresponding angles but they were not produced by a transversal crossing **parallel** lines.

- b. opposite angles

The pairs of opposite angles are ac , bd , eg , fh , ik , jl , mo , and np .

- c. alternate exterior

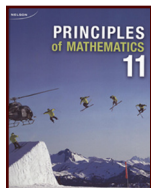
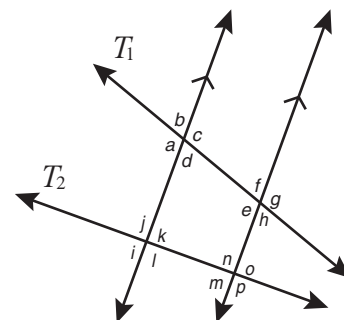
The pairs of alternate exterior angles are ag , bh , io , and jp . Pairs like bl and ci are alternate exterior angles, but were not produced by a transversal crossing **parallel** lines.

- d. alternate interior

The pairs of alternate interior angles are ce , df , km , and ln . Pairs like ak and dj are alternate interior angles but were not produced by a transversal crossing **parallel** lines.

2. Based on everything you have seen so far, how do the sizes of the pairs of angles appear to compare for each relationship listed in 1?

When a transversal crosses **parallel** lines, it appears that the pairs of angles for each of the relationships listed are the same size. This does not appear to be true when the lines are not parallel.



For further information on angle relationships see pp. 70 – 71 of *Principles of Mathematics 11*.