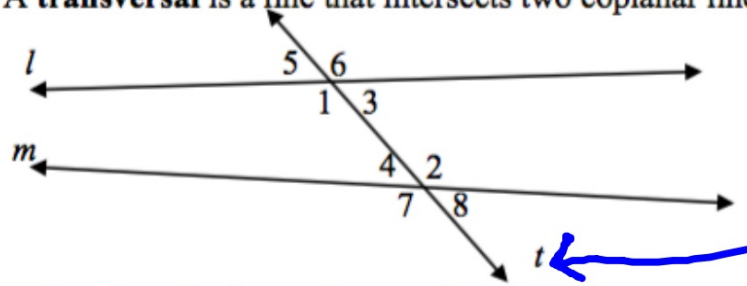
11.2 EQ: How do parallel lines and ∠s relate?

A **transversal** is a line that intersects two coplanar lines at two points.



transversal

Pairs of angles formed by two lines and a transversal have special names:

Alternate Interior Angles: ∠4, ∠3 ∠2, ∠1

If AI ∠s of ∥ lines, then ∠s ≅ (same)

Alternate Exterior Angles: ∠7, ∠6 ∠5, ∠8

If AE ∠s of ∥ lines, then ∠s ≅.

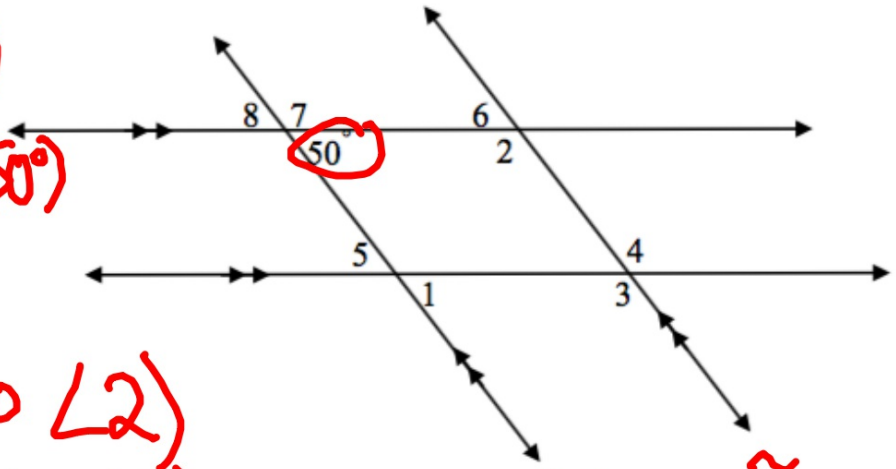
Same-Side Interior Angles: ∠4, ∠1 ∠2, ∠3

If SSI ∠s of ∥ lines, then ∠s Supplementary (add to 180)

Corresponding Angles: ∠1, ∠7 ∠8, ∠3 ∠4, ∠5 ∠2, ∠6

If C ∠s of ∥ lines, then ∠s ≅.

Example 3: Find the measure of each angle. Justify each answer with angle pairs.



a. $m\angle 1$ 50° (C to 50°)

b. $m\angle 2$ 130° (SSI to 50°)

c. $m\angle 3$ 130°

d. $m\angle 4$ 130° (AI to ∠2)

e. $m\angle 5$ 50° (Vert. to ∠1)

f. $m\angle 6$ 50° (linear pair w/∠2)

g. $m\angle 7$ 130°

h. $m\angle 8$ 50° (AE to ∠1)

AI ≅
AE ≅
SSI supp
C ≅
Vertical ≅
linear pair supp