

Geometry Unit 3: Transversals

Bronx Early College Academy

Christopher J. Huson PhD

11 October - 21 October 2022

3.1 Identify transversal angles	11 October
3.2 Transversals problems	12 October
3.3 Transversal situations	13 October
3.4 Parallelograms	14 October
3.5 Triangle sum proof	17 October
3.6 External angles	18 October
3.7 Parallelogram situations	19 October
3.8 Transversals review	20 October
3.9 Transversals test	21 October

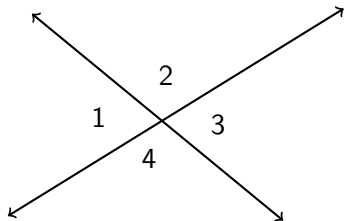
Learning Target: I can name parallel lines transversal angles

HSG.CO.C.9 Prove theorems about lines and angles

3.1 Tuesday 11 October

Do Now: Identify the true statements

1. $\angle 1 \cong \angle 2$
2. $\angle 2 \cong \angle 4$
3. $m\angle 1 + m\angle 4 = 180^\circ$
4. $m\angle 2 + m\angle 3 = 90^\circ$

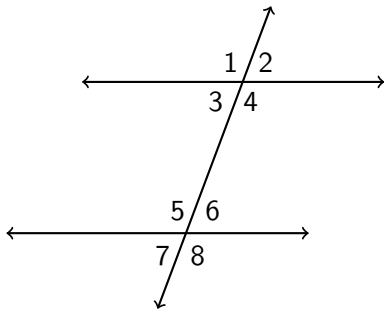


Lesson: Parallel lines and transversal angles

New terminology for parallel lines

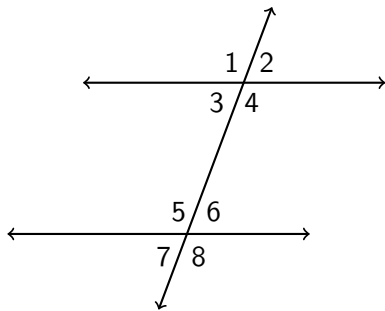
Parallel lines are in the same plane and never intersect

1. *parallel lines*, symbol: \parallel tick marks
2. *transversal line*
3. *interior, exterior \angle s*
4. *same-side, alternate \angle s*



New theorems for parallel lines

1. *corresponding* \angle s of \parallel lines are \cong
 $\angle 2 \cong \angle 6$
2. *same-side interior* \angle s are supplementary
 $m\angle 3 + m\angle 5 = 180$
3. *alternate exterior* \angle s are \cong
 $\angle 2 \cong \angle 7$



Hint: There are only two angle measures, the acute angles and the obtuse angles
(and they add to 180°)

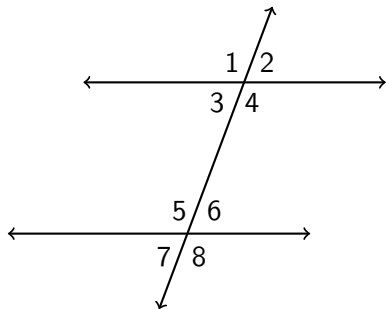
Learning Target: I can calculate transversal angles

HSG.CO.C.9 Prove theorems about lines and angles

3.2 Wednesday 12 October

Do Now: Identify each angle

1. Opposite $\angle 4$
2. Corresponding to $\angle 3$
3. Alternate exterior to $\angle 8$
4. Same side interior to $\angle 5$
5. Alternate interior to $\angle 4$



Learning Target: I can calculate transversal angles

HSG.CO.C.9 Prove theorems about lines and angles

3.3 Thursday 13 October

Learning Target: I can define a parallelogram

HSG.CO.C.9 Prove theorems about lines and angles

3.4 Friday 14 October

Learning Target: I can calculate triangle angles

HSG.CO.C.9 Prove theorems about lines and angles

3.5 Monday 17 October

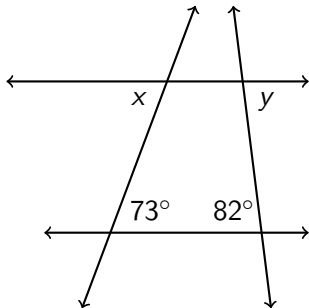
Learning Target: I can calculate external triangle angles

HSG.CO.C.9 Prove theorems about lines and angles

3.6 Tuesday 18 October

Do Now:

1. Given two parallel lines, two transversals
2. Find x , y
3. What relationship are you using? (e.g. vertical angles, same-side exterior angles, alternate interior angles, etc.)



Lesson: Sum of a triangle's interior angles is 180°

Homework: Deltamath 3.6 (Marking Period ends tomorrow)

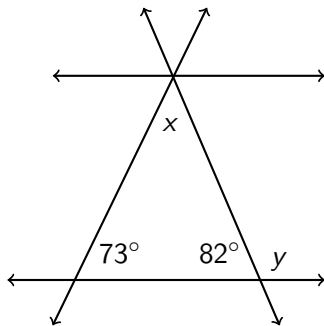
Learning Target: I can calculate angles in parallelograms

HSG.CO.C.9 Prove theorems about lines and angles

3.7 Wednesday 19 October

Do Now:

1. Given a triangle, shown
2. Find x , y
3. What relationships are you using? (e.g. vertical angles, same-side exterior angles, alternate interior angles, etc.)



Lesson: Triangle's exterior angles

Learning Target: I can review with my classmates

HSG.CO.C.9 Prove theorems about lines and angles

3.8 Thursday 20 October

Learning Target: I can review with my classmates

HSG.CO.C.9 Prove theorems about lines and angles

3.9 Friday 21 October

Notebook credit

Mastery grades 1 to 4

Take organized notes and study them for the test Friday

1. Well below: Few notes or no notebook
2. Approaching expectations: Many pages of notes in a composition book. Missing several formulas and definitions.
3. Proficient: Well organized composition book with most or all formulas and terminology easy to locate.
4. Extending: Assesses peers and gives constructive feedback.