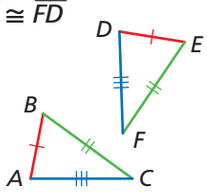
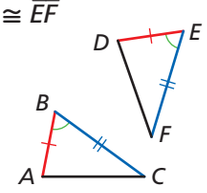
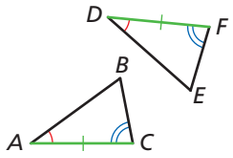
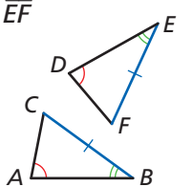
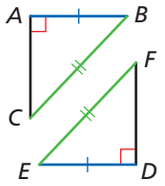
Section Overview

Professional Development

Triangle Congruence: SSS, SAS, ASA, AAS, HL, CPCTC *Lessons 4-4, 4-5, 4-6*

Why? Triangles have special properties that allow you to use shortcuts for proving triangles congruent.

SSS	SAS	ASA	AAS	HL
$\overline{AB} \cong \overline{DE}$ $\overline{BC} \cong \overline{EF}$ $\overline{CA} \cong \overline{FD}$	$\overline{AB} \cong \overline{DE}$ $\angle B \cong \angle E$ $\overline{BC} \cong \overline{EF}$	$\angle A \cong \angle D$ $\overline{AC} \cong \overline{DF}$ $\angle C \cong \angle F$	$\angle A \cong \angle D$ $\angle B \cong \angle E$ $\overline{BC} \cong \overline{EF}$	$\overline{BC} \cong \overline{EF}$ $\overline{AB} \cong \overline{DE}$
				
$\triangle ABC \cong \triangle DEF$	$\triangle ABC \cong \triangle DEF$	$\triangle ABC \cong \triangle DEF$	$\triangle ABC \cong \triangle DEF$	$\triangle ABC \cong \triangle DEF$

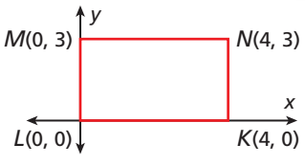
CPCTC = **C**orresponding **P**arts of **C**ongruent **T**riangles are **C**ongruent.
Once you know that two triangles are congruent, you know that all corresponding parts are congruent.

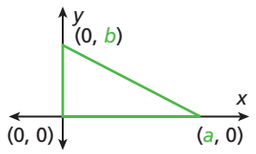
Introduction to Coordinate Proof *Lesson 4-7*

Why? Coordinate proof is a style of proof that uses coordinate geometry and algebra.

Strategies for Positioning Figures in the Coordinate Plane:
- Use the origin as a vertex, keeping the figure in Quadrant 1.
- Center the figure at the origin.
- Center a side of the figure at the origin.
- Use one or both axes as sides of the figure.

Coordinate proof uses coordinates, the Midpoint Formula, the Pythagorean Theorem, and/or the Distance Formula to prove conjectures.





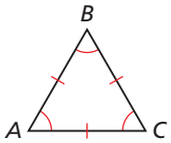
Isosceles and Equilateral Triangles *Lesson 4-8*

Why? Isosceles and equilateral triangles frequently appear in other figures, so knowing the properties of isosceles and equilateral triangles is very useful.

Equilateral △ ⟺ Equiangular △

$\overline{AB} \cong \overline{BC} \cong \overline{CA} \Leftrightarrow \angle A \cong \angle B \cong \angle C$

$\overline{AB} \cong \overline{BC} \cong \overline{CA}$ if and only if $\angle A \cong \angle B \cong \angle C$.



Isosceles △ *RST*

$\overline{RS} \cong \overline{ST} \Leftrightarrow \angle R \cong \angle T$

$\overline{RS} \cong \overline{ST}$ if and only if $\angle R \cong \angle T$.