Section Overview

Geometric Relationships
Lesson 8-2

Why? Lines and planes are the building blocks of geometry.

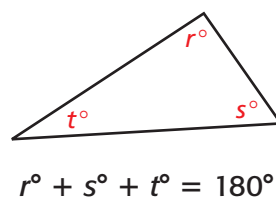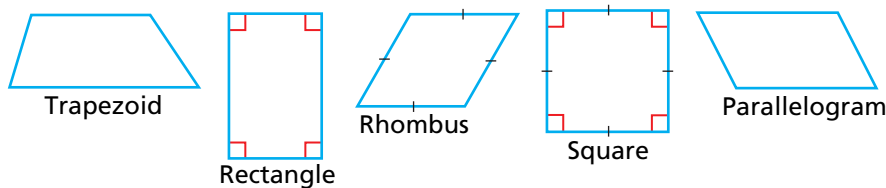| Definition	Examples
Parallel lines lie in the same plane and do not intersect.	$\overleftrightarrow{CG} \parallel \overleftrightarrow{BF}$
Perpendicular lines intersect at right angles.	$\overleftrightarrow{BC} \perp \overleftrightarrow{BF}$
Skew lines lie in different planes, are not parallel, and do not intersect.	$\overleftrightarrow{FG}$ and $\overleftrightarrow{AE}$ are skew.
Parallel planes do not intersect.	plane $BCG \parallel$ plane ADH
Perpendicular planes are planes that intersect to form right angles.	plane $BCG \perp$ plane CDH
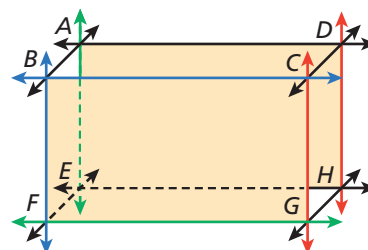
Triangles and Coordinate Geometry
Lessons 8-4, 8-5

**Why?** Polygons are all around us.

Triangles

Acute   Right

Obtuse   Equilateral

Isosceles   Scalene
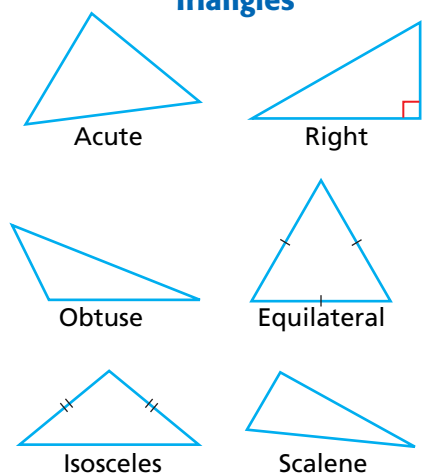
Special Quadrilaterals

Trapezoid   Rectangle   Rhombus   Square   Parallelogram

The interior angle measures of a triangle add to 180°.

$$r° + s° + t° = 180°$$

Any two vertical lines are parallel. Vertical and horizontal lines are perpendicular. These are exceptions for the more general definitions below.

$$\text{slope} = \frac{\text{rise}}{\text{run}} = \frac{2}{3}$$
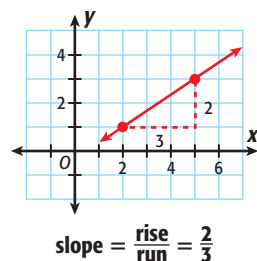
Parallel Lines
equal slopes

$\text{Slope} = -\frac{1}{4}$

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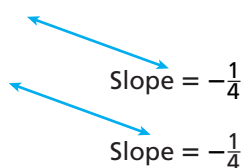
Perpendicular Lines
product of slopes $= -1$

$\text{Slope} = -\frac{3}{2}$

$\text{Slope} = \frac{2}{3}$

$$\left(-\frac{3}{2}\right)\left(\frac{2}{3}\right) = -1$$