



Chapter 5

Congruent Triangles

5.1 Angles of Triangles

5.2 Congruent Polygons

5.3 Proving Triangle Congruence by SAS

5.4 Equilateral and Isosceles Triangles

5.5 Proving Triangle Congruence by SSS

5.6 Proving Triangle Congruence by ASA and AAS

5.7 Using Congruent Triangles

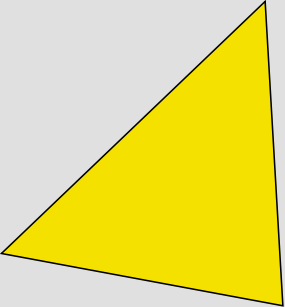
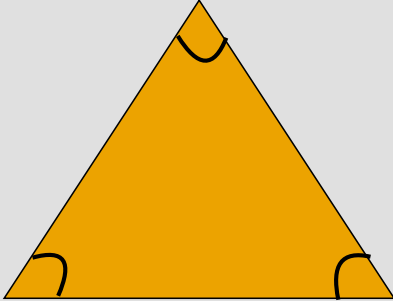
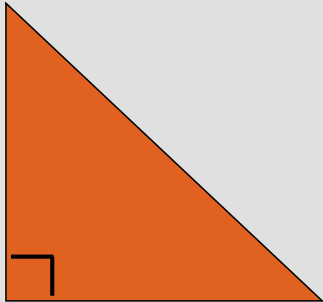
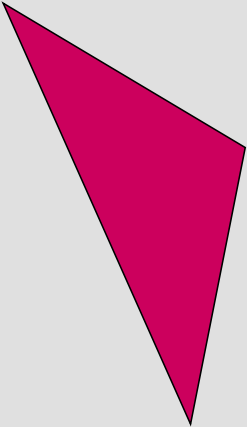
5.8 Coordinate Proof (skip)



5.1 Angles of Triangles



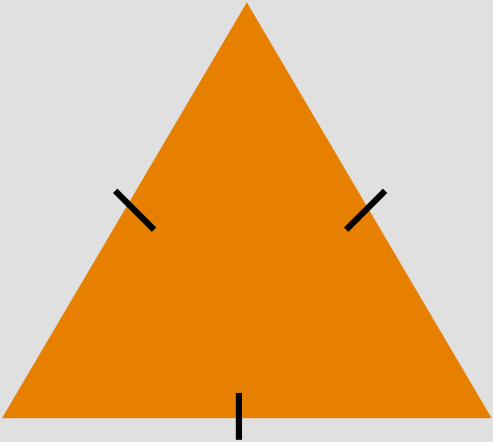
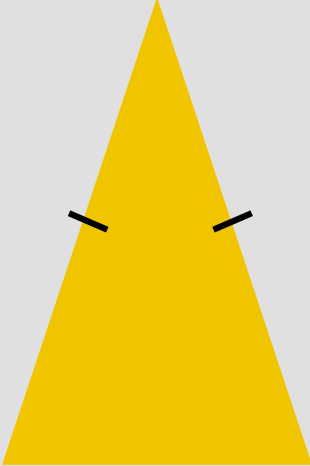

Classification by Angle Measure

Acute Triangle	Equiangular Triangle	Right Triangle	Obtuse Triangle
			

5.1 Angles of Triangles



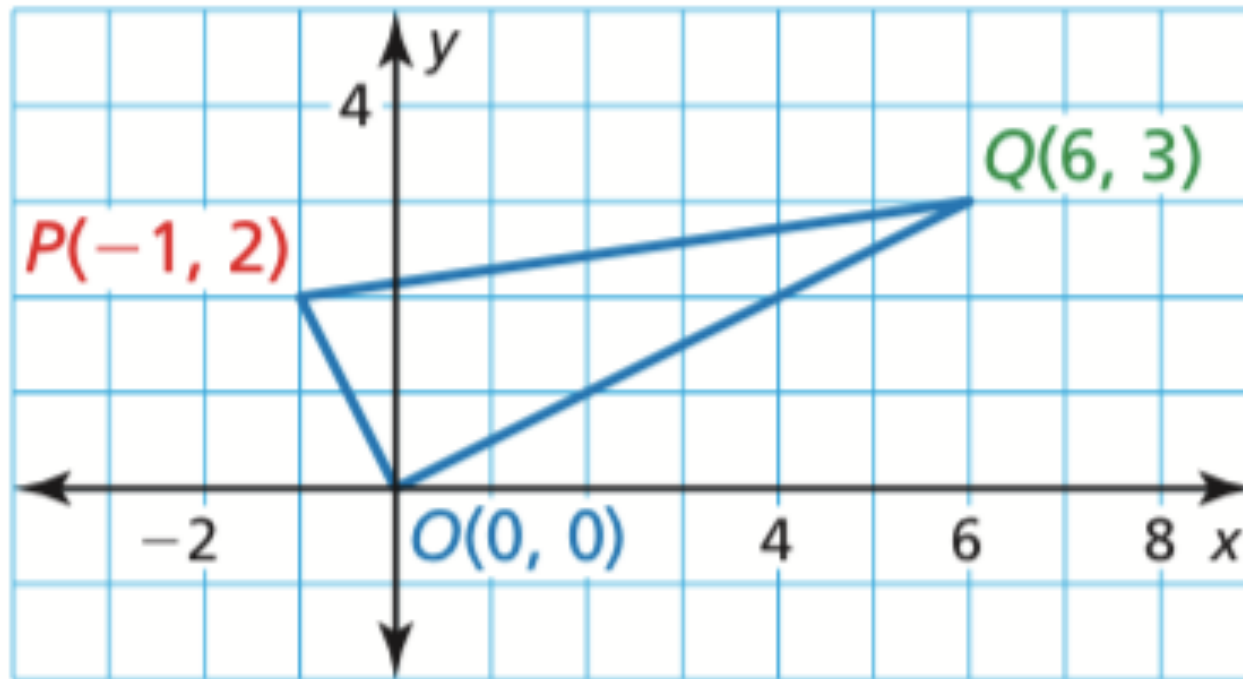
Classification by Side Measure

Equilateral Triangle	Isosceles Triangle	Scalene Triangle
		

5.1 Angles of Triangles



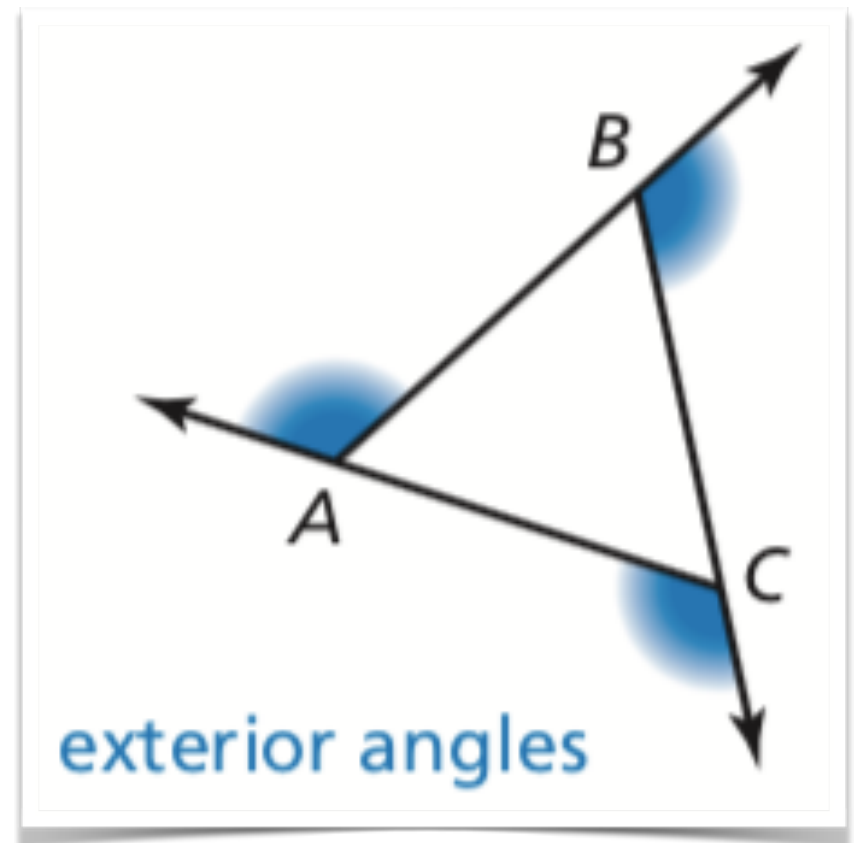
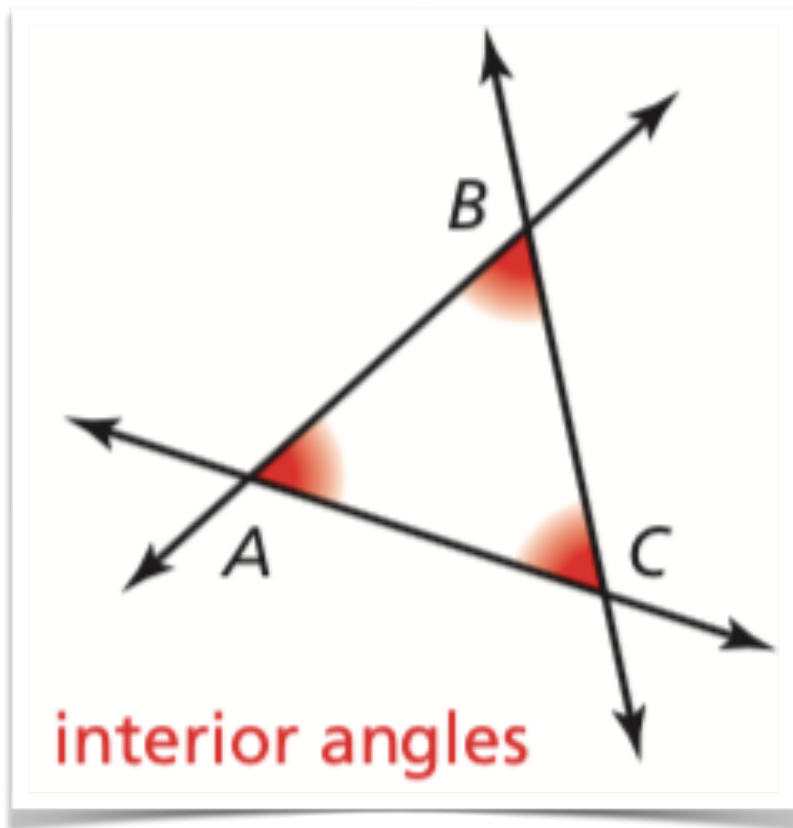
Classify the Triangle



5.1 Angles of Triangles



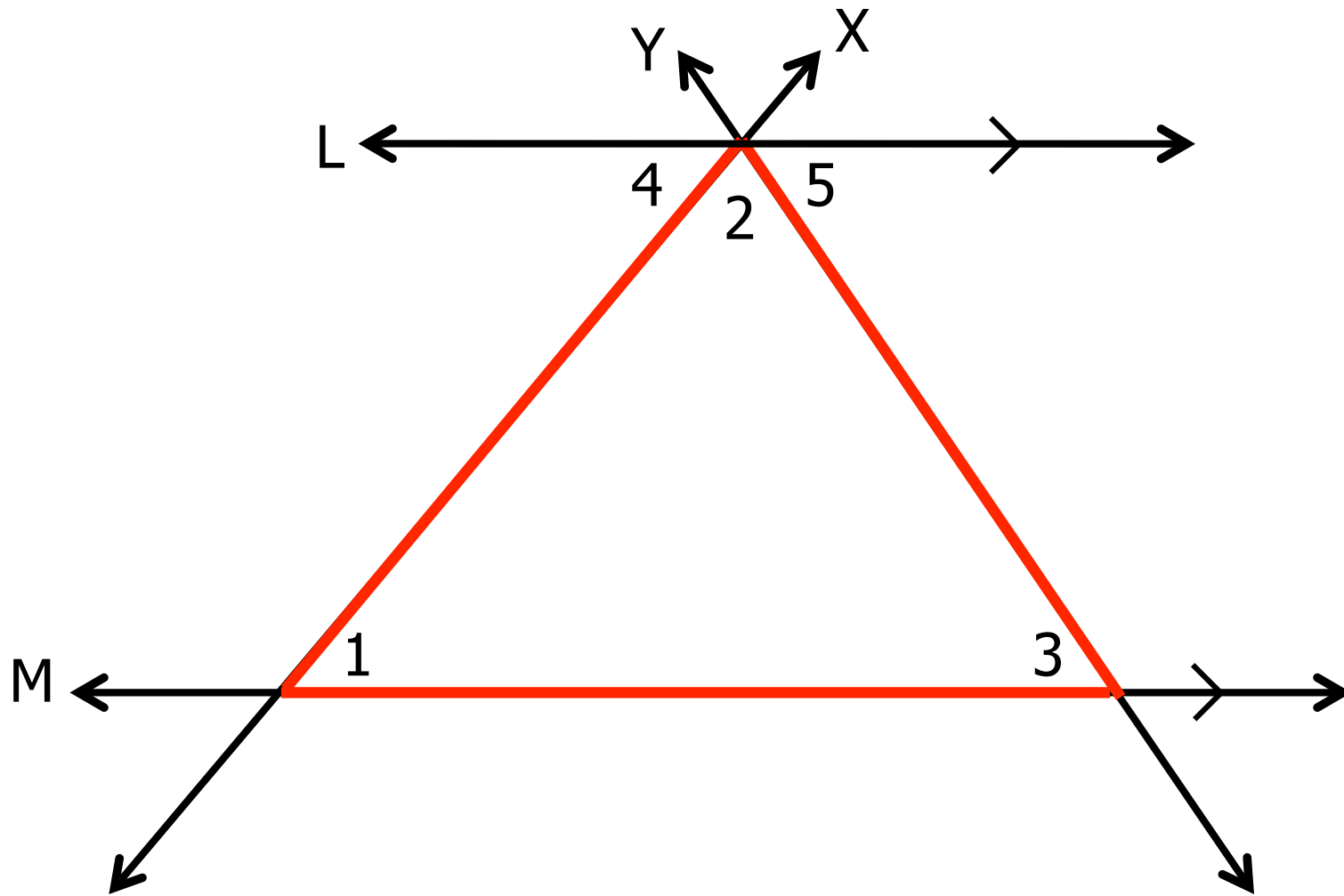
Angles of the Triangle



5.1 Angles of Triangles



What is $m\angle 1 + m\angle 2 + m\angle 3$? And why?



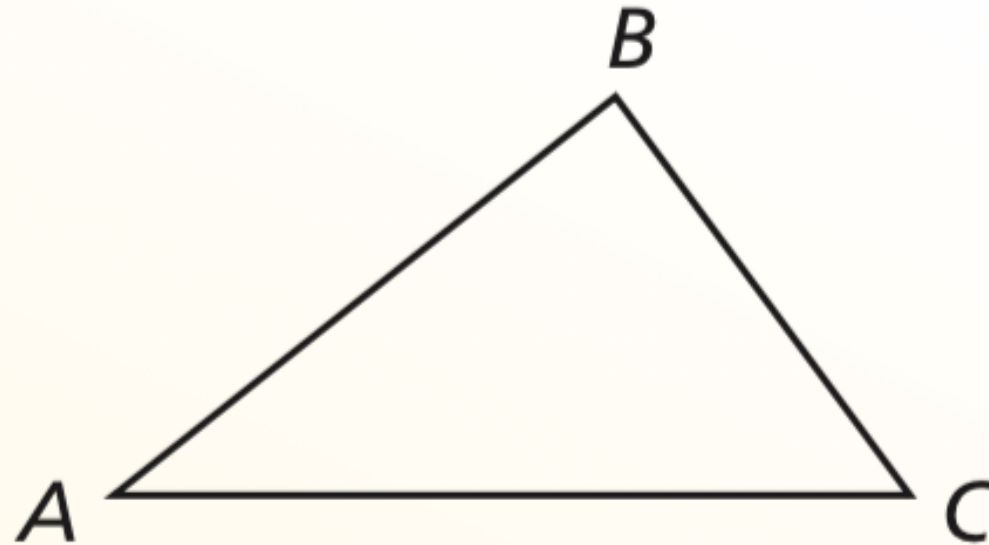
5.1 Angles of Triangles



Theorem

Triangle Sum Theorem

The sum of the measures of the interior angles of a triangle is 180° .

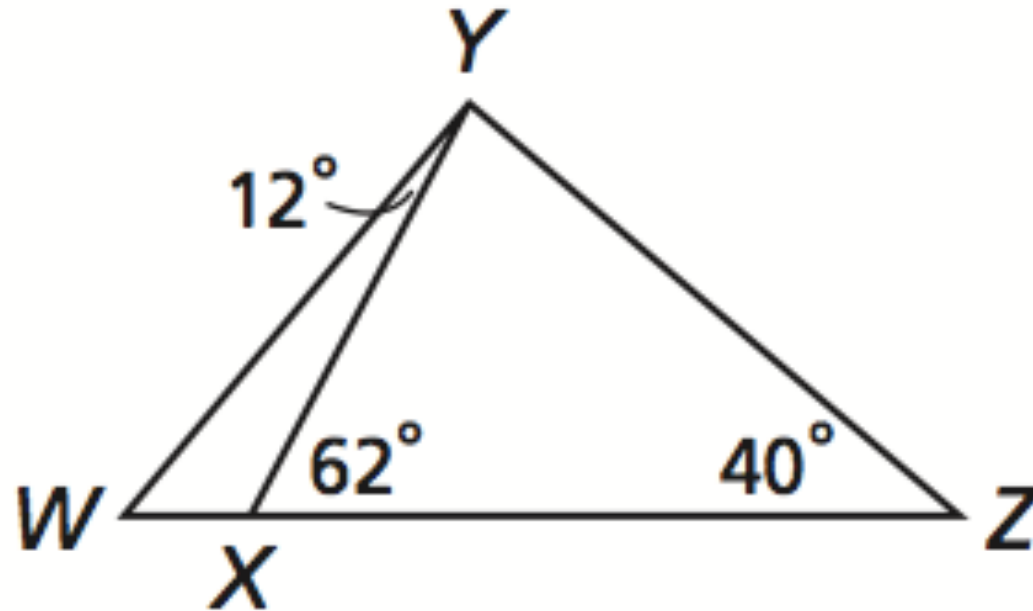


$$m\angle A + m\angle B + m\angle C = 180^\circ$$

5.1 Angles of Triangles



What is $m\angle 1 + m\angle 2 + m\angle 3$? And why?



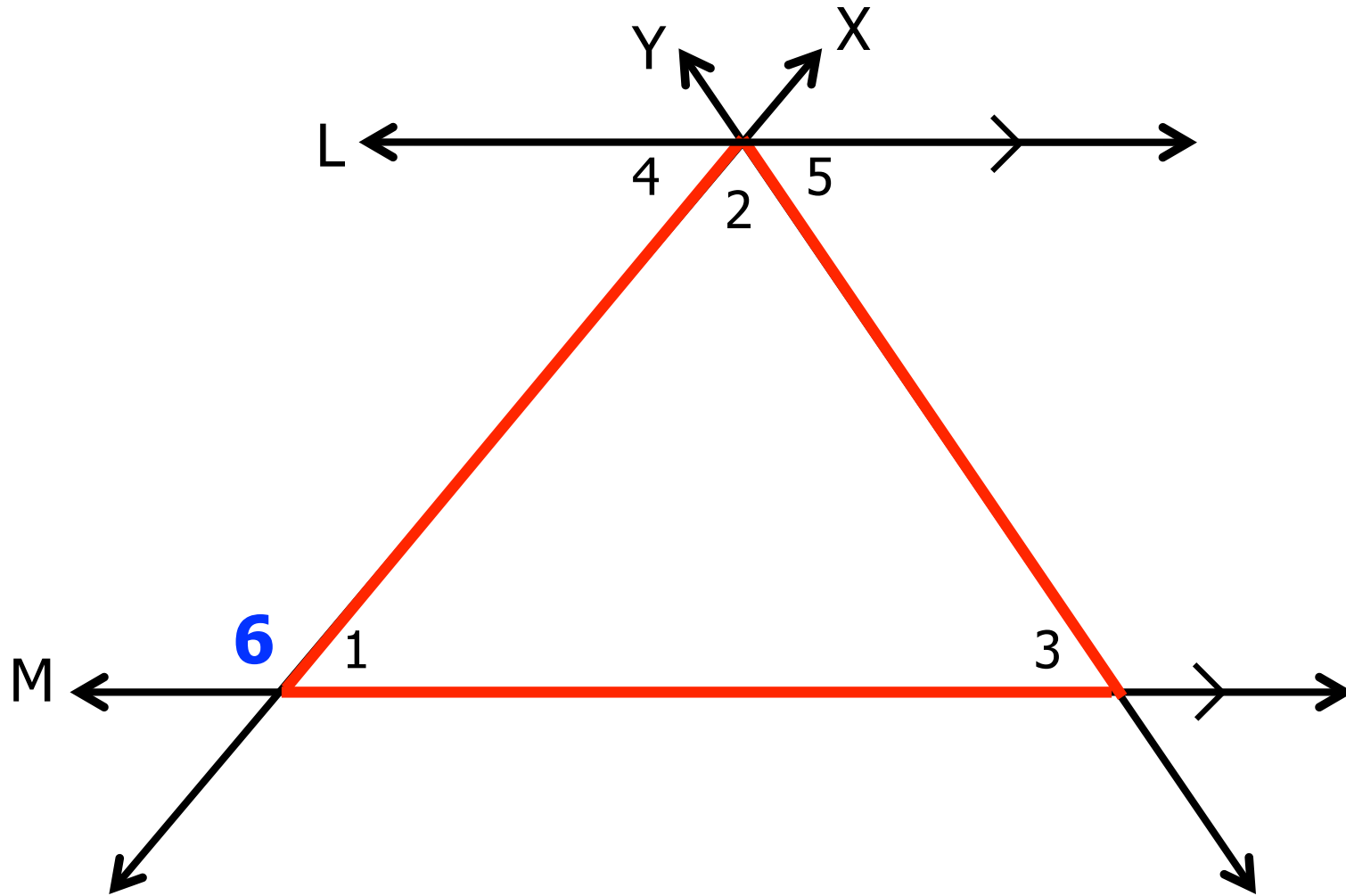
Find $m\angle XYZ$

$m\angle YWZ$

5.1 Angles of Triangles



What is the measure of $\angle 6$?



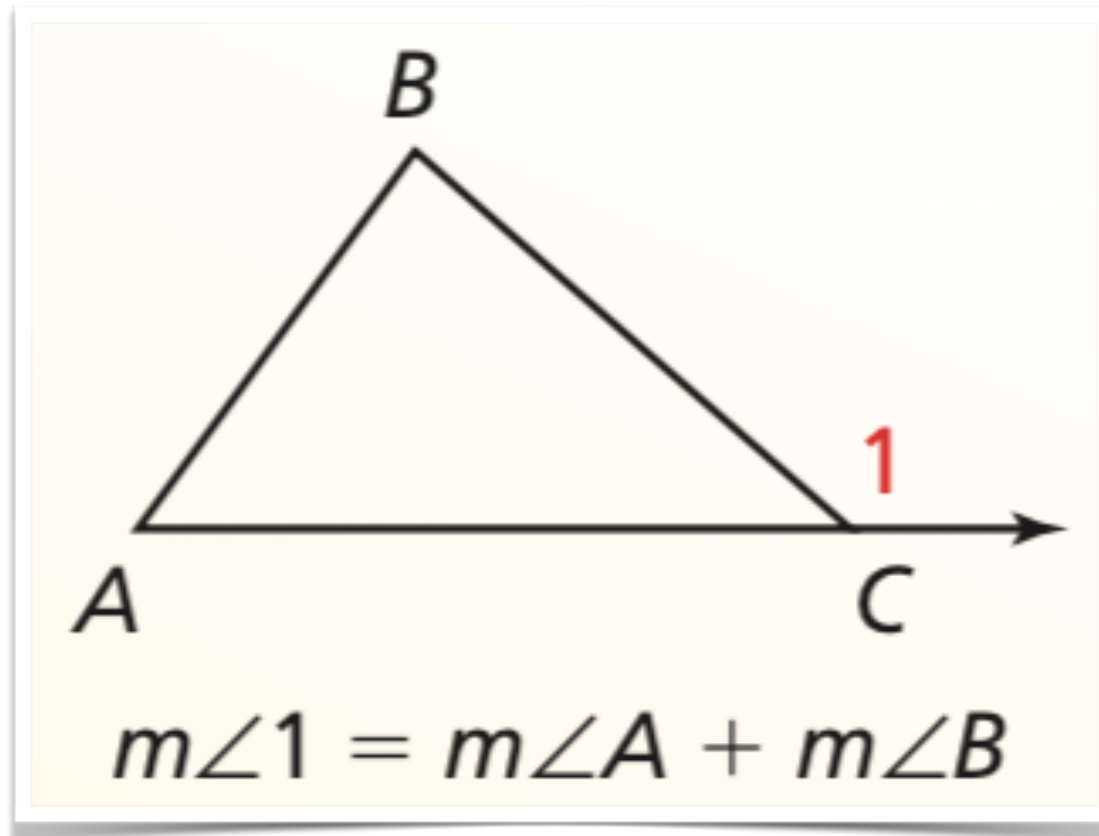
5.1 Angles of Triangles



Theorem

Exterior Angle Theorem

The measure of an exterior angle of a triangle is equal to the sum of the measures of the two nonadjacent interior angles.

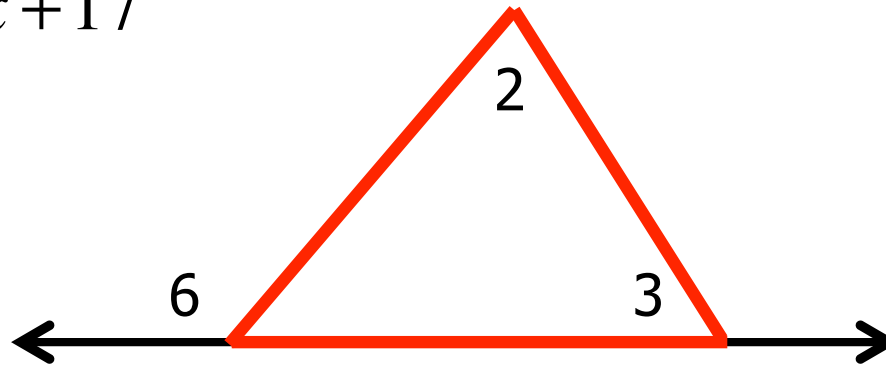


5.1 Angles of Triangles



Practice:

- a) Solve for $m\angle 3$ if $m\angle 2 = 6x - 1$ and $m\angle 6 = 126^\circ$ and $m\angle 3 = 5x + 17$



- b) Solve for $m\angle 1$

