### Lesson 6 Practice Problems

1. How do the values of $α$ and $β$ compare? Explain your reasoning.
* 
1. Triangle $ABC$ is shown together with its angle bisectors. Draw a point $D$ that is equidistant from sides $AC$ and $BC$, but which is closest to side $AB$.
* 
1. In triangle $ABC$, point $D$ is the incenter. Sketch segments to represent the distance from point $D$ to the sides of the triangle. How must these distances compare?
* 
1. Triangle $ABC$ has circumcenter $D$.
	1. Sketch the 3 lines that intersect at the circumcenter.
	2. If the distance from point $D$ to point $A$ is 5 units, what is the distance from point $D$ to point $C$? Explain or show your reasoning.
* 
*
* (From Unit 7, Lesson 5.)
1. The angles of triangle $ABC$ measure 50 degrees, 40 degrees, and 90 degrees. Will its circumcenter fall inside the triangle, on the triangle, or outside the triangle?
	1. inside the triangle
	2. on the triangle
	3. outside the triangle
* (From Unit 7, Lesson 5.)
1. Tyler and Kiran are discussing the parallelogram in the image. Tyler says the parallelogram cannot be cyclic. Kiran says the parallelogram can be cyclic if a circle is drawn carefully through the vertices.
* 
* Do you agree with either of them? Explain or show your reasoning.
* (From Unit 7, Lesson 4.)
1. Find the measures of the remaining angles of quadrilateral $WXYZ$.
* 
* (From Unit 7, Lesson 3.)
1. Which expression describes a point that partitions a segment $AB$ in a $1:5$ ratio?
	1. $\frac{1}{5}A+\frac{4}{5}B$
	2. $\frac{1}{6}A+\frac{5}{6}B$
	3. $\frac{4}{5}A+\frac{1}{5}B$
	4. $\frac{5}{6}A+\frac{1}{6}B$
* (From Unit 6, Lesson 15.)
1. Write 3 expressions that can be used to find angle $C$.
* 
* (From Unit 4, Lesson 9.)



© CC BY 2019 by Illustrative Mathematics®