## Assignment: Area and Length

Suppose you and a friend are studying for an exam about the topics in this section. The two of you decide to create a practice guide on how to solve these types of problems.

Write a practice guide by writing one problem for each of these three topics:

- Find the area of a triangle using one of the following formulas:
$K=\frac{1}{2} b c \sin A$
$K=\frac{1}{2} a b \sin C$
$K=\frac{1}{2} a c \sin B$
$K=\frac{1}{2} a^{2} \frac{\sin B \sin C}{\sin A}$
$K=\frac{1}{2} b^{2} \frac{\sin A \sin C}{\sin B}$
$K=\frac{1}{2} c^{2} \frac{\sin A \sin B}{\sin C}$
Hero's Formula: $K=\sqrt{s(s-a)(s-b)(s-c)}$
- Find the arc length of an arc given the measure of the corresponding central angle and the radius of the circle.
- Find the area of a sector given the measure of the corresponding central angle and the radius of the circle.

Write a problem for each topic, including all information needed to solve the problem, including a diagram. Then write the solution to the problem, showing all the steps needed to find the solution, including the formula. Include a sentence that describes the solution based on the original problem.
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