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:

$$K = \frac{1}{2}bc \sin A$$

$$K = \frac{1}{2}ab \sin C$$

$$K = \frac{1}{2}ac \sin B$$

$$K = \frac{1}{2}a^{2}\frac{\sin B \sin C}{\sin A}$$

$$K = \frac{1}{2}b^{2}\frac{\sin A \sin C}{\sin B}$$

$$K = \frac{1}{2}c^{2}\frac{\sin A \sin B}{\sin C}$$
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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