

## USING LAW OF SSSINES

Use what you have learned about the Law of Sines and the given information to determine the value for  $x$ . Round angle measurements to the nearest degree and lengths to the nearest tenth.

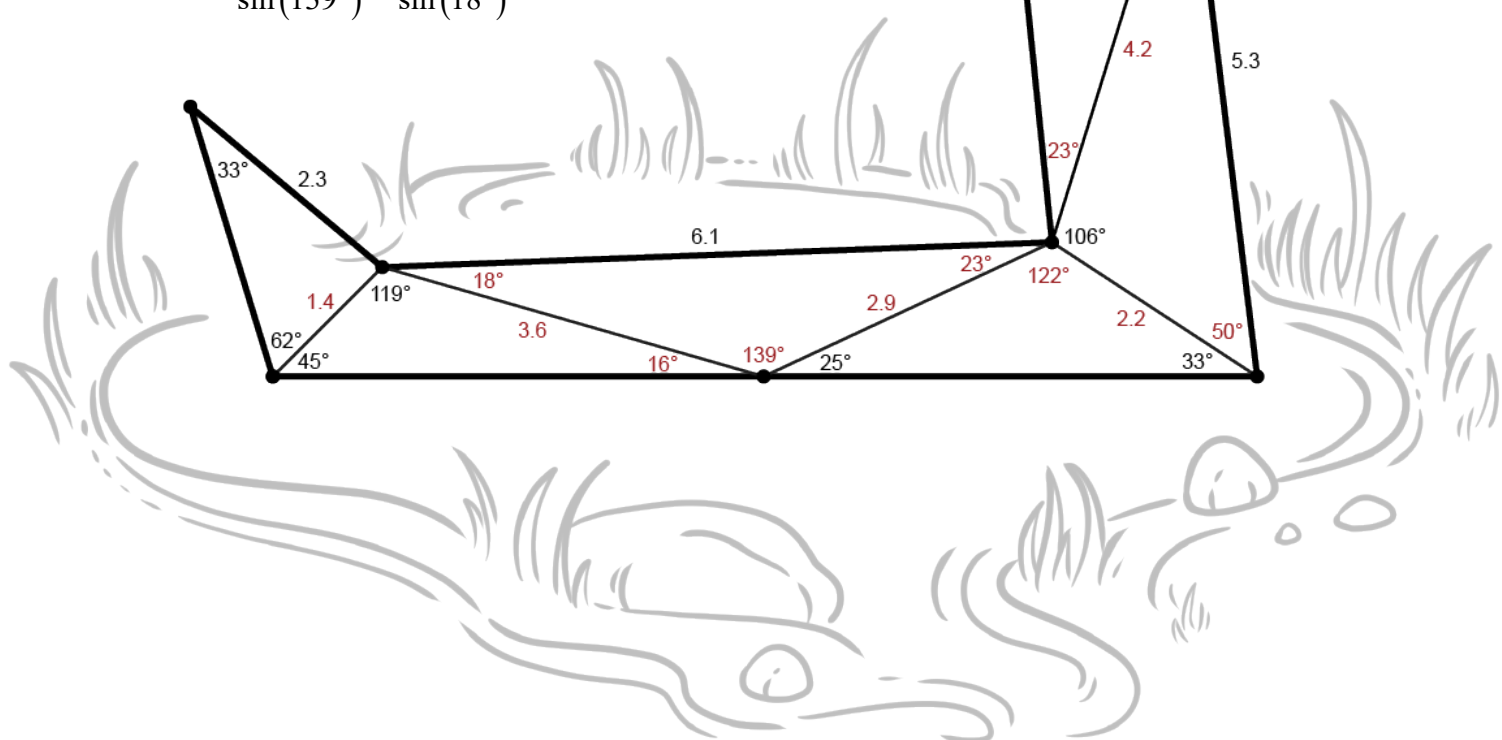
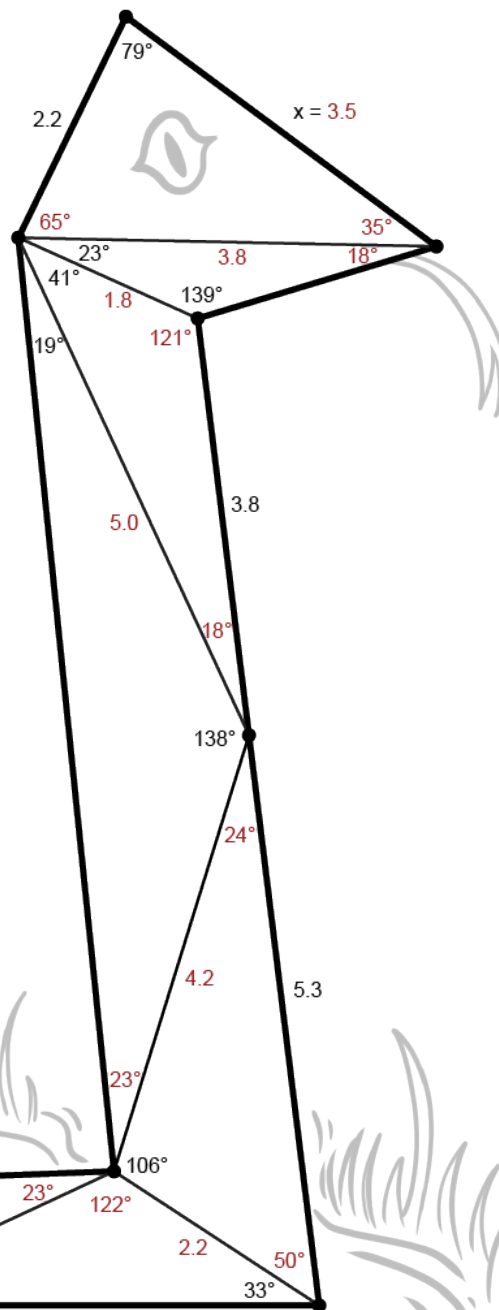
$$1) \quad \frac{a_1}{\sin(33^\circ)} = \frac{2.3}{\sin(62^\circ)} \Rightarrow a_1 = 1.4$$

$$2) \quad \frac{a_2}{\sin(45^\circ)} = \frac{1.4}{\sin(16^\circ)} \Rightarrow a_2 = 3.6$$

$$3) \quad \frac{\sin(B_3)}{3.6} = \frac{\sin(139^\circ)}{6.1}$$

$$\sin^{-1}(0.387...) \Rightarrow B_3 = 23^\circ \text{ or } 157^\circ$$

$$\frac{6.1}{\sin(139^\circ)} = \frac{a_3}{\sin(18^\circ)} \Rightarrow a_3 = 2.9$$



$$4) \frac{2.9}{\sin(33^\circ)} = \frac{a_4}{\sin(25^\circ)} \Rightarrow a_4 = 2.2$$

$$5) \frac{\sin(B_5)}{2.2} = \frac{\sin(106^\circ)}{5.3}$$
$$\sin^{-1}(0.404\dots) \Rightarrow B_5 = 24^\circ \text{ or } 156^\circ$$
$$\frac{5.3}{\sin(106^\circ)} = \frac{c_5}{\sin(50^\circ)} \Rightarrow c_5 = 4.2$$

$$6) \frac{4.2}{\sin(19^\circ)} = \frac{a_6}{\sin(23^\circ)} \Rightarrow a_6 = 5.0$$

$$7) \frac{3.8}{\sin(41^\circ)} = \frac{c_7}{\sin(18^\circ)} \Rightarrow c_7 = 1.8$$

$$8) \frac{1.8}{\sin(18^\circ)} = \frac{c_8}{\sin(139^\circ)} \Rightarrow c_8 = 3.8$$

$$9) \frac{\sin(C_9)}{2.2} = \frac{\sin(77^\circ)}{3.8}$$
$$\sin^{-1}(0.568\dots) \Rightarrow B_5 = 35^\circ \text{ or } 145^\circ$$
$$\frac{2.2}{\sin(35^\circ)} = \frac{a_9}{\sin(65^\circ)} \Rightarrow a_9 = 3.5$$